

COSHH Risk Assessments
&
Data Material Sheet

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- COSHH No 013: pH blue**
- COSHH No 014: Line marker spray**

			Assessment Approval:		
Rev:	Name:	Position:	Amendment:	Date:	Review Date:
C	Colin Newman	HSQE & Operations Manager	Reviewed	08.06.2023	07.06.2024
D	Colin Newman	HSQE & Operations Manager	Reviewed	07.06.2024	07.06.2025
E	Colin Newman	HSQE & Operations Manager	Added COSHH 014 Line Marker Spray	12.02.2025	11.02.2026

		COSHH Risk Assessment for No: Antifreeze		COSHH NO: 001			
Describe the activity or work process. <i>(Include how long and how often this is carried out and the quantity of substance used)</i>		To be diluted with water and as a coolant additive for diesel and petrol engines.					
Location of process being carried out?		On site or in the yard.					
Identify the persons at risk:		Employees <i>(including trainees)</i> ☒	Contractors ☐	Public <i>(including students)</i> ☐			
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet for this substance should be attached to this assessment)</i>		Morris Lubricants MEG Antifreeze CAT ELC [Extended Life Coolant]					
Classification (state the category of danger)							
 ☐ Acute toxicity Cat 1-3	 ☒ Serious health hazard	 ☐ Aquatic Environment					
 ☒ Acute toxicity (cat 4)	 ☐ Flammable	 ☐ Explosive					
 ☐ Corrosive	 ☐ Oxidising	 ☐ Gas under pressure					
Hazard Type							
☐ Gas	☐ Vapour	☐ Mist	☐ Fume	☐ Dust	☒ Liquid	☐ Solid	☐ Other (State)
Route of Exposure							
☐ Inhalation	☒ Skin	☒ Eyes	☒ Ingestion	☐ Other	(State)		
Physical and Chemical Properties							
Colour:	Blue or Red.	Odour:	Odourless				
Melting Point:	<-12°C	Initial Boiling Point & Range:	165°C @ 760mm Hg				
Flash Point:	111°C PMCC	Upper/Lower Flammability or Exploive	3.2				
Vapour Pressure:	0.05kPa @ °C	Vapour Density:	2.14				
Relative Density	1.13 @ 20°C	Solubility:	Miscible with water. Miscible with the following materials: acetone Alcohols.				
Auto-ignition Temperature:	400°C	Viscosity:	21cP @ 20°C				

State the Risks to Health from Identified Hazards			
Contact with Skin: Slightly irritating and defatting action to the skin. Eyes: Intense smarting and irritation. Ingestion: Effects the central nervous system.			
Control Measures: (for example extraction, ventilation, training, supervision).			
Contact With Skin : Avoid contact by using suitable protective clothing. Eyes : Wear eye protection when handling the liquid. Ingestion : Normal handling and hygiene precautions. Wash hands after use.			
Is health surveillance or monitoring required? <div style="text-align: right;"> Yes ☐ No ☒ </div>			
Personal Protective Equipment (state type and standard)			
 ☐ Dust mask		 ☐ Visor	
 ☐ Respirator		 ☒ X Goggles	
 ☒ X Gloves	Protective gloves must be worn	 ☐ Overalls	
 ☐ Footwear		 ☐ Other	
First Aid Measures			
Contact With Skin: Use barrier creams to prevent skin contact. Flush area with water. Use soap if available. Clean contaminated clothing before reuse. Eyes: Flush eye with water. If irritation persists, seek medical help. Ingestion: Immediately drink lots of water. IF CONSCIOUS INDUCE VOMITING. Send to hospital immediately.			
Storage			
Keep in closed, labelled containers as purchased. Directions on labels should be read and followed.			
Disposal of Substances & Contaminated Containers			
Hazardous Waste ☒ X Skip ☐ Return to Depot ☐ Return to Supplier ☐ Other ☐			
(If Other Please State):			

Is exposure adequately controlled?	Yes ☒ X No ☐			
Assessment Approval:				
Revision:	Name:	Position:	Date:	Review Date:
A	C Newman	HSQE & Operation Manager	18.06.2021	17.06.2022
B	C Newman	HSQE & Operation Manager	04.05.2022	03.05.2022



SAFETY DATA SHEET

MEG Antifreeze

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name MEG Antifreeze
Product number 7860
Internal identification GHS21801

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Antifreeze liquid. Corrosion inhibitor.

1.3. Details of the supplier of the safety data sheet

Supplier Morris Lubricants
Castle Foregate
Shrewsbury
SY1 2EL

08.45 - 17.00 GMT
T: (+44)(0)1743 232200
F: (+44)(0)1743 353584
sds@morris-lubricants.co.uk

1.4. Emergency telephone number

Emergency telephone +44 (0)1743 232200 (08.45 - 17.00 hrs GMT)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Not Classified
Health hazards Acute Tox. 4 - H302 STOT RE 2 - H373
Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) -

2.2. Label elements

Pictogram



Signal word Warning

Hazard statements
H302 Harmful if swallowed.
H373 May cause damage to organs through prolonged or repeated exposure.

MEG Antifreeze

Precautionary statements	P260 Do not breathe vapour/spray.
	P264 Wash contaminated skin thoroughly after handling.
	P270 Do not eat, drink or smoke when using this product.
	P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
	P314 Get medical advice/attention if you feel unwell.
	P330 Rinse mouth.
	P501a Dispose of contents/container to hazardous or special waste collection point.

Contains	Ethane-1,2-diol
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2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Ethane-1,2-diol			60-100%
CAS number: 107-21-1	EC number: 203-473-3	REACH registration number: 01-2119456816-28-XXXX	
Classification STOT RE 2 - H373	Classification (67/548/EEC or 1999/45/EC) Xn;R22		
Disodium tetraborate pentahydrate			1-5%
CAS number: 12179-04-3	EC number: 215-540-4	REACH registration number: 01-2119490790-32-XXXX	
Classification Eye Irrit. 2 - H319 Repr. 1A - H360FD	Classification (67/548/EEC or 1999/45/EC) Repr. Cat. 1;R60,R61.		

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention if any discomfort continues.
Inhalation	Remove affected person from source of contamination. Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention.
Ingestion	Do not induce vomiting. Place unconscious person on their side in the recovery position and ensure breathing can take place. Rinse mouth thoroughly with water. Give plenty of water to drink. Give milk instead of water if readily available. Keep affected person under observation. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention immediately. Show this Safety Data Sheet to the medical personnel. Get medical attention immediately.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.
Eye contact	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

4.2. Most important symptoms and effects, both acute and delayed

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically
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MEG Antifreeze

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Stop flow of material to fire. Extinguish with the following media: Alcohol-resistant foam. Carbon dioxide (CO₂). Dry chemicals, sand, dolomite etc. Water spray, fog or mist.

5.2. Special hazards arising from the substance or mixture

Specific hazards Toxic gases or vapours. Heat from fire could result in drums bursting

5.3. Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours. Use water to keep fire exposed containers cool and disperse vapours. Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Use air-supplied respirator, gloves and protective goggles.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions For personal protection, see Section 8. In case of spills, beware of slippery floors and surfaces.

6.2. Environmental precautions

Environmental precautions Avoid the spillage or runoff entering drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Absorb in vermiculite, dry sand or earth and place into containers. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Good personal hygiene procedures should be implemented. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Provide adequate ventilation. Avoid inhalation of vapours. Use approved respirator if air contamination is above an acceptable level. Avoid spilling, skin and eye contact.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry and cool place. Do not store near heat sources or expose to high temperatures.

Storage class Chemical storage.

7.3. Specific end use(s)

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Ethane-1,2-diol

MEG Antifreeze

Long-term exposure limit (8-hour TWA): WEL 20 ppm(Sk) 52 mg/m³(Sk)

Short-term exposure limit (15-minute): WEL 40 ppm(Sk) 104 mg/m³(Sk)

Sk

Disodium tetraborate pentahydrate

Long-term exposure limit (8-hour TWA): WEL 1 mg/m³

WEL = Workplace Exposure Limit

Sk = Can be absorbed through the skin.

Ethane-1,2-diol (CAS: 107-21-1)

DNEL

Industry - Inhalation; Long term local effects: 35 mg/m³

Industry - Dermal; Long term systemic effects: 106 mg/kg

Consumer - Inhalation; Long term local effects: 7 mg/m³

Consumer - Dermal; Long term systemic effects: 53 mg/m³

PNEC

- Fresh water; 10 mg/l

- Marine water; 1 mg/l

- STP; 199.5 mg/l

- Sediment (Freshwater); 20.9 mg/kg

- Soil; 1.53 mg/kg

- Intermittent release; 10 mg/l

Disodium tetraborate pentahydrate (CAS: 12179-04-3)

DNEL

Consumer - Oral; Short term systemic effects: 1.15 mg/kg/day

Industry - Inhalation; Short term local effects: 17.04 mg/m³

Industry - Inhalation; Long term local effects: 17.04 mg/m³

Industry - Inhalation; Long term systemic effects: 9.8 mg/m³

Consumer - Inhalation; Short term local effects: 17.04 mg/m³

Consumer - Inhalation; Long term local effects: 17.04 mg/m³

Consumer - Inhalation; Long term systemic effects: 4.9 mg/m³

Industry - Dermal; Long term systemic effects: 458.2 mg/kg/day

Consumer - Dermal; Long term systemic effects: 231.8 mg/kg/day

PNEC

- Fresh water; 2.02 mg/l

- Marine water; 2.02 mg/l

- Intermittent release; 13.7 mg/l

- Soil; 5.4 mg/kg

- STP; 10 mg/l

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

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Hand protection	The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.
Other skin and body protection	Use barrier creams to prevent skin contact.
Hygiene measures	Use engineering controls to reduce air contamination to permissible exposure level. Wash promptly with soap and water if skin becomes contaminated. Do not eat, drink or smoke when using this product.
Respiratory protection	No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Blue.
Odour	Odourless.
Melting point	<-12°C
Initial boiling point and range	165°C @ 760 mm Hg
Flash point	111°C PMCC (Pensky-Martens closed cup).
Upper/lower flammability or explosive limits	: 3.2
Vapour pressure	0.05 kPa @ °C
Vapour density	2.14
Relative density	1.13 @ 20°C
Solubility(ies)	Miscible with water. Miscible with the following materials: acetone Alcohols.
Auto-ignition temperature	400°C
Viscosity	21 cP @ 20°C

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition. Water, moisture.
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10.5. Incompatible materials

Materials to avoid	Strong oxidising agents. Strong acids. Flammable/combustible materials.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Oxides of carbon. Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m ³ .
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MEG Antifreeze

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg) 540.54054054

Ingestion Harmful if swallowed.

Skin contact May be absorbed through the skin. Skin irritation should not occur when used as recommended.

Eye contact May cause temporary eye irritation.

SECTION 12: Ecological Information

Ecotoxicity Not regarded as dangerous for the environment.

12.1. Toxicity

Toxicity Not considered toxic to fish.

Acute toxicity - fish LC₅₀, 96 hours: 22810 mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 41000 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability The product is expected to be biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product is not bioaccumulating.

12.4. Mobility in soil

Mobility The product is water-soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. When handling waste, the safety precautions applying to handling of the product should be considered.

Disposal methods Avoid the spillage or runoff entering drains, sewers or watercourses. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Waste class European Waste Catalogue (EWC) code: 16 01 15* (other a/freeze)

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

Road transport notes Not classified.

Rail transport notes Not classified.

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Air transport notes Not classified.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78
and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).
EU legislation	Dangerous Preparations Directive 1999/45/EC. Dangerous Substances Directive 67/548/EEC.
Guidance	Workplace Exposure Limits EH40. Safety Data Sheets for Substances and Preparations.

15.2. Chemical safety assessment

SECTION 16: Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	11/11/2015
Revision	1
SDS number	21801
Hazard statements in full	H302 Harmful if swallowed. H319 Causes serious eye irritation. H360FD May damage fertility. May damage the unborn child. H373 May cause damage to organs through prolonged or repeated exposure. H373 May cause damage to organs through prolonged or repeated exposure if swallowed.

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This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

CAT ® ELC (Extended Life Coolant)

Product Use: Antifreeze/Coolant

Product Number(s): 226387

Company Identification

Chevron Products Company

Global Lubricants

6001 Bollinger Canyon Rd.

San Ramon, CA 94583

United States of America

www.chevronlubricants.com

Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

Health Emergency

Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

email : lubemsds@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Target organ toxicant (repeated exposure): Category 2. Reproductive toxicant (developmental): Category 2.



Signal Word: Warning

Health Hazards: Suspected of damaging the unborn child.

Target Organs: May cause damage to organs (Kidney) through prolonged or repeated exposure.

PRECAUTIONARY STATEMENTS:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Use personal protective equipment as required.

Response: Get medical advice/attention if you feel unwell. IF exposed or concerned: Get medical advice/attention.

Storage: Store locked up.

Disposal: Dispose of contents/container in accordance with applicable

local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Ethylene Glycol	107-21-1	30 - 60 %weight
Sodium 2-ethylhexanoate	19766-89-3	1 - 5 %weight
Molybdc acid, disodium salt, dihydrate	10102-40-6	0.1 - 1 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Ingestion: Toxic; may be harmful or fatal if swallowed.

Inhalation: Not expected to be harmful if inhaled. Breathing this material at concentrations above the recommended exposure limits may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

DELAYED OR OTHER HEALTH EFFECTS:

Reproduction and Birth Defects: Contains material that may cause adverse reproductive effects if swallowed based on animal data. Contains material that may cause harm to the unborn child if swallowed based on animal data.

Target Organs: Contains material that may cause damage to the following organ(s) following repeated inhalation at concentrations above the recommended exposure limit: Kidney Risk depends on duration and level of exposure. See Section 11 for additional information.

Indication of any immediate medical attention and special treatment needed Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish

flames. Dry Chemical, CO2, AFFF Foam or alcohol resistant foam.

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Do not taste or swallow antifreeze or solution. Keep out of the reach of children and animals.

Precautionary Measures: Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Wash thoroughly after handling. Keep out of the reach of children.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

General Storage Information: Do not store in open or unlabeled containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits. Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Natural rubber, Neoprene, Nitrile Rubber, Polyvinyl Chloride (PVC or Vinyl).

Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: No respiratory protection is normally required. Air-Purifying Respirator for Organic Vapors, Dusts and Mists.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Ethylene Glycol	ACGIH	--	--	100 mg/m3	--
Sodium 2-ethylhexanoate	Not Applicable	--	--	--	--
Molybdic acid, disodium salt, dihydrate	ACGIH	.5 mg/m3	--	--	A3 A3

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Red

Physical State: Liquid

Odor: Faint or Mild

Odor Threshold: No data available

pH: 8.1 - 8.5

Vapor Pressure: 0.12 mmHg (Typical) @ 20 °C (68 °F)

Vapor Density (Air = 1): 2.1

Initial Boiling Point: 108.9°C (228°F)

Solubility: Miscible

Freezing Point: -37°C (-34.6°F)

Specific Gravity: 1.08 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)

Viscosity: No data available

Decomposition temperature: No data available

Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:

Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 160 °C (320 °F) (Typical)

Autoignition: No data available

Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Incompatibility With Other Materials: Not applicable

Hazardous Decomposition Products: Ketones (Elevated temperatures), Aldehydes (Elevated temperatures)

Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz.) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain, difficulty in breathing and decreased urine output. When EG was heated above the boiling point of water, vapors formed which reportedly caused unconsciousness, increased lymphocyte count, and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of

any reports that EG causes reproductive toxicity in human beings.

2-Ethylhexanoic acid (2-EXA) caused an increase in liver size and enzyme levels when repeatedly administered to rats via the diet. When administered to pregnant rats by gavage or in drinking water, 2-EXA caused teratogenicity (birth defects) and delayed postnatal development of the pups. Additionally, 2-EXA impaired female fertility in rats. Birth defects were seen in the offspring of mice who were administered sodium 2-ethylhexanoate via intraperitoneal injection during pregnancy.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

This material is not expected to be harmful to aquatic organisms.
The product has not been tested. The statement has been derived from products of a similar structure and composition.

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PROPRIETARY ANTIFREEZE PREPARATION IN NON-BULK PACKAGING; NOT REGULATED FOR TRANSPORT UNDER 49 CFR

Additional Information: Bulk shipments containing a reportable quantity (RQ, 5000 pounds or more) of ethylene glycol in a single packaging are transported as hazardous material. The shipping description is: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ETHYLENE GLYCOL CONTAINS BITTERANT), 9, III, RQ (ETHYLENE GLYCOL)

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: Anti-freeze Preparations, Proprietary; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:

Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:	1.	Immediate (Acute) Health Effects:	YES	
	2.	Delayed (Chronic) Health Effects:	YES	
	3.	Fire Hazard:		NO
	4.	Sudden Release of Pressure Hazard:	NO	
	5.	Reactivity Hazard:		NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.

Ethylene Glycol 03, 05, 06, 07

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

NEW JERSEY RTK CLASSIFICATION:

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: Refer to components listed in Section 3.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 2 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 2* Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:

Label Category : ANTIFREEZE/COOLANT 13 - AFC13

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 1-16

Revision Date: APRIL 29, 2015

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

	<h1 style="margin: 0;">COSHH Risk Assessment for No: Cement</h1>	COSHH NO: 002	
Describe the activity or work process. <i>(Include how long and how often this is carried out and the quantity of substance used)</i>	Cements are used in industrial installations to manufacture/formulate hydraulic binders for building and construction work, such as ready-mixed concrete, mortars, renders, grouts, plasters as well as precast concrete.		
Location of process being carried out?	In the yard and on construction sites.		
Identify the persons at risk:	Employees ☒ <i>(including trainees)</i>	Contractors ☒ Public ☐ <i>(including students)</i>	
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet for this substance should be attached to this assessment)</i>	Different cement manufacturer companies are used to produce cement. Hanson Cement Material Safety Data Sheet attached for reference.		
Classification (state the category of danger)			
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%; text-align: center;">  ☐ Acute toxicity Cat 1-3 </div> <div style="width: 33%; text-align: center;">  ☐ Serious health hazard </div> <div style="width: 33%; text-align: center;">  ☐ Aquatic Environment </div> <div style="width: 33%; text-align: center;">  ☒ Acute toxicity (cat 4) </div> <div style="width: 33%; text-align: center;">  ☐ Flammable </div> <div style="width: 33%; text-align: center;">  ☐ Explosive </div> <div style="width: 33%; text-align: center;">  ☒ Corrosive </div> <div style="width: 33%; text-align: center;">  ☐ Oxidising </div> <div style="width: 33%; text-align: center;">  ☐ Gas under pressure </div> </div>			
Hazard Type			
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div>☐</div> <div>☐</div> <div>☐</div> <div>☐</div> <div>☒</div> <div>☐</div> <div>☐</div> <div>☐</div> </div> <div style="display: flex; justify-content: space-around; font-size: small;"> Gas Vapour Mist Fume Dust Liquid Solid Other (State) </div>			
Route of Exposure			
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div>☒</div> <div>☒</div> <div>☒</div> <div>☐</div> <div>☐</div> </div> <div style="display: flex; justify-content: space-around; font-size: small;"> Inhalation Skin Eyes Ingestion Other (State) </div>			
Physical and Chemical Properties			
Colour:	Grey or white powder	Odour:	Odourless
Melting Point:	>1,250°C	Initial Boiling Point & Range:	>1,250°C
Flash Point:	N/A	Upper/Lower Flammability or Exploive	N/A
Vapour Pressure:	N/A	Vapour Density:	N/A
Relative Density	2.75-3.20; Apparent density: 0.9-1.5g/cm³	Solubility:	In water [T=20°C]: Slight [0.1-1.5g/l]
Auto-ignition Temperature:	N/A	Viscosity:	N/A

State the Risks to Health from Identified Hazards			
Inhalation: May cause respiratory irritation, over a long period of time increases the risk of developing lung diseases. Skin: Causes skin irritation on moist skin or may cause dermatitis after repeated contact. Eyes: May cause serious and potentially irreversible eye damage.			
Control Measures: (for example extraction, ventilation, training, supervision).			
Inhalation: Wear suitably fitting dust mask. Skin: Wear protective gloves/protective clothing to cover any exposed skin. Eyes: Wear appropriate safety eye wear goggles/safety glasses.			
Is health surveillance or monitoring required? <div style="float: right;"> Yes ☐ No ☒ </div>			
Personal Protective Equipment (state type and standard)			
 ☒ Dust mask		 ☐ Visor	
 ☐ Respirator		 ☒ Goggles	
 ☒ Gloves	Use watertight, wear and alkali resistant gloves. Close long -sleeved protective clothing.	 ☐ Overalls	
 ☒ Footwear		 ☐ Other	
First Aid Measures			
Inhalation: Move person to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops or if discomfort, coughing or other symptoms persist. Skin: Remove and rinse abundantly with water. Remove contaminated clothing, footwear, watches, etc. Clean thoroughly before re-using them. Seek medical treatment in all cases of irritation or burns. Eyes: Do not rub eyes in order to avoid possible cornea damage. Incline head to eye injured, open eyelid[s] widely and flush eye[s] immediately by thoroughly rinsing with plenty of clean water for at least 20 minutes to remove all particles. If still irritating seek medical help immediately.			
Storage			
Keep in closed, labelled containers as purchased. Directions on labels should be read and followed.			
Disposal of Substances & Contaminated Containers			
Hazardous Waste ☐ Skip ☒ Return to Depot ☐ Return to Supplier ☐ Other ☐			
(If Other Please State):			

Is exposure adequately controlled?	Yes ☒ No ☐			
Assessment Approval:				
Revision:	Name:	Position:	Date:	Review Date:
A	C Newman	HSQE & Operation Manager	18.06.2021	17.06.2022
B	C Newman	HSQE & Operation Manager	04.05.2022	03.05.2022

HS005C – V1.3 April 2020

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Products EN 197-1 Common cements and mixtures containing them	
Trade Names	
Bulk Cements	Packed Cements
Hanson Portland Cement Hanson Rapid Hardening Portland Cement Hanson Coarse Ground Portland Cement	Hanson Multicem Hanson General Purpose Cement Hanson +SR Hanson White Cement

The following are the substances in the cement that contribute to the classification of the mixture as regards acute toxicity, skin corrosion or serious eye damage, respiratory or skin sensitisation, specific target organ toxicity (STOT) or aspiration hazard

Substance	EINECS	CAS	Hazard
Portland cement clinker	266-043-4*	65997-15-1	Serious eye damage, Skin sensitisation and STOT SE
Flue dust from production of cement clinker**	270-659-9	68475-76-3	Serious eye damage, Skin sensitisation and STOT SE

* Entry is called Cement, Portland, Chemicals.

** May exist in some products. For the purposes of this SDS information assume this substance exists.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Cements are used in industrial installations to manufacture/formulate hydraulic binders for building and construction work, such as ready-mixed concrete, mortars, renders, grouts, plasters as well as precast concrete.

Common cements and cement containing mixtures (hydraulic binders) are used industrially, by professionals as well as by consumers in building and construction work, indoor and outdoor. The identified uses of cements and cement containing mixtures cover the dry products and the products in a wet suspension (paste).

Any uses not mentioned above, are advised against.

1.3 Details of the supplier of the safety data sheet

Hanson Cement Ltd
Ketton
Stamford
Lincolnshire
PE9 3SX

Hanson Cement Customer Services

Tel: 0330 123 2074

e-mail: cement.customer.services@hanson.biz

1.4 Emergency telephone number

Emergency telephone number: 0330 123 2074

Hours of operation: 08.45 – 17.00 (Monday-Thursday) 08.45 – 16.00 (Friday)

Service is provided in English

Emergency telephone number is not available outside office hours.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 According to Regulation (EC) No 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statements
Skin irritation	2	H318: Causes serious eye damage
Serious eye damage/eye irritation	1	H315: Causes skin irritation
Skin sensitisation	1B	H317: May cause an allergic skin reaction
Specific target organ toxicity single exposure respiratory tract irritation	3	H335: May cause respiratory irritation

2.2 Label elements

According to Regulation (EC) No 1272/2008 (CLP)

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage
 H315 Causes skin irritation
 H317 May cause an allergic skin reaction
 H335 May cause respiratory irritation

Precautionary statements

P102 Keep out of reach of children.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

P302+P352+P333+P313	IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
P261+P304+P340+P312	Avoid breathing dust. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
P501	Dispose of product/packaging by hardening with the application of water and dispose of as concrete waste.

Supplemental information

Skin contact with wet cement, fresh concrete or mortar may cause irritation, dermatitis or burns. May cause damage to products made of aluminium or other non-noble metals.

2.3 Other hazards

Cement does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH (Regulation (EC) No 1907/2006).

When cement reacts with water, for instance when making concrete or mortar, or when the cement becomes damp, a strong alkaline solution is produced. Due to the high alkalinity, wet cement may provoke skin and eye irritation.

The product contains chromate reducing agent. As a result, the content of soluble chromium (VI) is less than 2 ppm. If the storage conditions are not appropriate or the storage period is exceeded, the effectiveness of the reducing agent can diminish, and the cement can become skin sensitizing.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Common cement types according to the EN 197-1 standard:

CEM I 52,5N
CEM I 52,5R
CEM I 42,5N
CEM II A-LL 32,5R
CEM II A-LL 42,5N
CEM III A 42,5N LH

which contain less than 1% crystalline silica and :

Substance	Concentration Range (W/W in cement)	Registration Number	EINECS	CAS	Classification Regulation 1272/2008	
					Hazard Class	Hazard Statement
Portland cement clinker	5-100%	(a)	266-043-4	65997-15-1	STOT SE 3	H335: May cause respiratory irritation
					Skin irritation 2	H315: Causes skin irritation
					Serious eye damage/eye irritation 1	H318: Causes serious eye damage
					Skin sensitisation 1B	H317: May cause an allergic skin reaction
Flue dust (b)	0-5%	01-2119486767-17-0054	270-659-9	68475-76-3	STOT SE 3	H335: May cause respiratory irritation
					Skin irritation 2	H315: Causes skin irritation
					Serious eye damage/eye irritation 1	H318: Causes serious eye damage
					Skin sensitisation 1	H317: May cause an allergic skin reaction

- (a) Portland cement clinker is, according to Art. 2.7(b) and Annex V.10 of EC Regulation 1907/2006 (REACH), exempt from the registration requirement.
- (b) "Flue Dust" is a substance (UVCB), arising during production of cement clinker; other conventional names are cement kiln dust, bypass meal, filter dust, ESP dust and clinker dust.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

No personal protective equipment is needed for first aid responders. First aid workers should avoid contact with wet cement or wet cement containing mixtures.

Following contact with eyes

Do not rub eyes in order to avoid possible cornea damage as a result of mechanical stress. Remove contact lenses if any. Incline head to injured eye, open the eyelid(s) widely and flush eye(s) immediately by thoroughly rinsing with plenty of clean water for at least 20 minutes to remove all particles. Avoid flushing particles into uninjured eye. If possible, use isotonic water (0.9% NaCl). Contact a specialist of occupational medicine or an eye specialist.

Following skin contact

For dry cement, remove and rinse abundantly with water. For wet cement, wash skin with plenty of water. Remove contaminated clothing, footwear, watches, etc. and clean thoroughly before re-using them. Seek medical treatment in all cases of irritation or burns.

Following inhalation

Move the person to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops or if discomfort, coughing or other symptoms persist.

Following ingestion

Do not induce vomiting. If the person is conscious, wash out mouth with water and give plenty of water to drink. Get immediate medical attention or contact the anti poison centre.

4.2 Most important symptoms and effects, both acute and delayed***Eyes***

Eye contact with cement (dry or wet) may cause serious and potentially irreversible injuries.

Skin

Cement may have an irritating effect on moist skin (due to sweat or humidity) after prolonged contact or may cause contact dermatitis after repeated contact. Prolonged skin contact with wet cement or wet concrete may cause serious burns because they develop without pain being felt (for example when kneeling in wet concrete even when wearing trousers).

For more details see Reference (1).

Inhalation

Repeated inhalation of dust of common cements over a long period of time increases the risk of developing lung diseases.

Environment

Under normal use, common cement is not hazardous to the environment.

4.3 Indication of any immediate medical attention and special treatment needed

When contacting a physician, take this MSDS with you.

SECTION 5: Fire-fighting measures**5.1 Extinguishing media**

Cements are not flammable.

5.2 Special hazards arising from the substance or mixture

Cements are non-combustible and non-explosive and will not facilitate or sustain the combustion of other materials.

5.3 Advice for fire-fighters

Cement poses no fire-related hazards. No need for special protective equipment for fire fighters.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****6.1.1 For non-emergency personnel**

Wear protective equipment as described under Section 8 and follow the advice for safe handling and use given under Section 7.

6.1.2 For emergency responders

Emergency procedures are not required. However, respiratory protection is needed in situations with high dust levels. Contact should be avoided with wet cement or wet cement containing mixtures.

6.2 Environmental precautions

Do not wash cement down sewage and drainage systems or into bodies of water (e.g. streams).

6.3 Methods and material for containment and cleaning up

Collect the spillage in a dry state if possible.

Dry cement

Use clean up methods such as vacuum clean-up or vacuum extraction (Industrial portable units, equipped with high efficiency air filters (EPA and HEPA filters, EN 1822-1:2009) or equivalent technique) which do not cause airborne dispersion. Never use compressed air. Alternatively, wipe-up the dust by mopping, wet brushing or by using water sprays or hoses (fine mist to avoid that the dust becomes airborne) and remove slurry. If not possible, remove by slurrying with water (see wet cement). When wet cleaning or vacuum cleaning is not possible and only dry cleaning with brushes can be done, ensure that the workers wear the appropriate personal protective equipment and prevent dust from spreading. Avoid inhalation of cement and contact with skin. Place spilled materials into a container. Solidify before disposal as described under Section 13.

Wet cement

Clean up wet cement and place in a container. Allow material to dry and solidify before disposal as described under Section 13.

6.4 Reference to other sections

See Sections 8 and 13 for more details.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

For more information, refer to the practice guidelines adopted under the Social Dialogue Agreement on Workers' Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it, by Employee and Employer European sectoral associations, among which CEMBUREAU. These safe handling practices It can be found via the following link:

<http://www.nepsi.eu/agreement-good-practice-guide/good-practice-guide.aspx>.

7.1.1 Protective measures

Follow the recommendations as given under Section 8.
To clean up dry cement, see Subsection 6.3.

Measures to prevent fire

Not applicable.

Measures to prevent aerosol and dust generation

Do not sweep. Use dry clean up methods such as vacuum clean-up or vacuum extraction, which do not cause airborne dispersion.

Measures to protect the environment

No special measures required.

7.1.2 Information on general occupational hygiene

Do not handle or store near food and beverages or smoking materials. In dusty environment, wear dust mask and protective goggles. Use protective gloves to avoid skin contact.

7.2 Conditions for safe storage, including any incompatibilities

Bulk cement should be stored in silos that are waterproof, dry (i.e. with internal condensation minimised), clean and protected from contamination. Engulfment hazard: To prevent engulfment or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains cement without taking the proper safety measures. Cement can build-up or adhere to the walls of a confined space. The cement can release, collapse or fall unexpectedly. Packed products should be stored in unopened bags clear of the ground in cool, dry conditions and protected from excessive draught in order to avoid degradation of quality. Bags should be stacked in a stable manner. Do not use aluminium containers for the storage or transport of wet cement containing mixtures due to incompatibility of the materials.

7.3 Specific end use(s)

No additional information for the specific end uses (see section 1.2).

7.4 Control of soluble Cr (VI)

For cements treated with a Cr (VI) reducing agent according to the regulations given in Section 15, the effectiveness of the reducing agent diminishes with time. Therefore, cement bags and/or delivery documents will contain information on the packaging date, the storage conditions and the storage period appropriate to maintaining the activity of the reducing agent and to keeping the content of soluble chromium VI below 0.0002 % of the total dry weight of the cement ready for use, according to EN 196-10. They will also indicate the appropriate storage conditions for maintaining the effectiveness of the reducing agent.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****8.1.1 Exposure limit values (Workplace Exposure Limits WEL)**

Substance	CAS	Long Term Exposure Limit (8hr TWA Reference Method)	Legal Reference
Portland Cement Clinker	65997-15-1	-	COSHH 2002 & HSE EH40/2005
Inhalable dust		10 mg/m ³	
Respirable dust		4 mg/m ³	

Recommendations given here are based on a DNEL level of 3mg/m³.

8.2 Exposure controls

For each individual PROC, users can choose from either option A) or B) in the table above, according to what is best suited to their specific situation. If one option is chosen, then the same option has to be chosen in the table from section “8.2.2 Individual protection measures such as personal protection equipment” - Specification of respiratory protective equipment. Only combinations between A) – A) and B) – B) are possible.

8.2.1 Appropriate engineering controls

Measures to reduce generation of dust and to avoid dust propagating in the environment such as dedusting, exhaust ventilation and dry clean-up methods which do not cause airborne dispersion.

Exposure Scenario	PROC*	Exposure	Technical Installation	Efficiency
Industrial manufacture/formulation of hydraulic building and construction materials	2, 3	Duration is not restricted (up to 480 minutes per shift, 5 shifts a week)	Not required	-
	14, 26		A) Not required or B) Generic local exhaust ventilation	- 78%
			5, 8b, 9	A) General ventilation or B) Generic local exhaust ventilation
Industrial uses of dry hydraulic building and construction materials (indoor, outdoor)	2		Not required	-
	14, 22, 26		A) Not required or B) Generic local exhaust ventilation	- 78%
			5, 8b, 9	A) General ventilation or B) Generic local exhaust ventilation
Industrial uses of wet suspension of hydraulic building and construction materials	7		A) Not required or B) Generic local exhaust ventilation	- 78%
	2, 5, 8b, 9, 10, 13, 14		Not required	-
			2	Not required
Professional use of dry hydraulic building and construction material (indoor, outdoor)	9, 26		A) Not required or B) Generic local exhaust ventilation	- 72 %
	5, 8a, 8b, 14		A) Not required or B) Integrated local exhaust ventilation	- 87 %
			19	Localised controls are not applicable, process only in good ventilated rooms or outdoor
	Professional uses of wet suspensions of hydraulic building and construction materials		11	A) Not required or B) Generic local exhaust ventilation
2, 5, 8a, 8b, 9, 10, 13, 14, 19			Not required	-

* PROC's are identified uses and defined in section 16.2.

8.2.2 Individual protection measures such as personal protection equipment

General

During work avoid kneeling in fresh mortar or concrete wherever possible. If kneeling is absolutely necessary then appropriate waterproof personal protective equipment must be worn. Do not eat, drink or smoke when working with cement to avoid contact with skin or mouth. Before starting to work with cement, apply a barrier cream and reapply it at regular intervals. Immediately after working with cement or cement-containing materials, workers should wash or shower or use skin moisturisers. Remove contaminated clothing, footwear, watches, etc. and clean thoroughly before re-using them.

Eye/face protection



Wear approved glasses or safety goggles according to EN 166 when handling dry or wet cement to prevent contact with eyes.

Skin protection



Use watertight, wear and alkali resistant gloves (e.g. Nitrile soaked cotton gloves with CE Marking) internally lined with cotton, boots, closed long-sleeved protective clothing as well as skin care products (including barrier creams) to protect the skin from prolonged contact with wet cement. Particular care should be taken to ensure that wet cement does not enter the boots. For the gloves, respect the maximum wearing time to avoid skin problems. In some circumstances, such as when laying concrete or screed, waterproof trousers or kneepads are necessary.

Respiratory protection



When a person is potentially exposed to dust levels above exposure limits, use appropriate respiratory protection. The type of respiratory protection should be adapted to the dust level and conform to the relevant EN standard, (e.g. EN 149, EN 140, EN 14387, EN 1827) or national standard.

Thermal hazards

Not applicable

Use	PROC*	Exposure	Specification of respiratory protective equipment (RPE)	RPE efficiency - assigned protection factor (APF)
Industrial manufacture/formulation of hydraulic building and construction materials	2, 3	Duration is not restricted (up to 480 minutes per shift, 5 shifts a week)	Not required	-
	14, 26		A) P1 mask (FF, FM) or B) Not required	APF = 4 -
	5, 8b, 9		A) P2 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 10 APF = 4
Industrial uses of dry hydraulic building and construction materials (indoor, outdoor)	2		Not required	-
	14, 22, 26		A) P1 mask (FF, FM) or B) Not required	APF = 4 -
	5, 8b, 9		A) P2 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 10 APF = 4
Industrial uses of wet suspension of hydraulic building and construction materials	7		A) P1 mask (FF, FM) or B) Not required	APF = 4 -
	2, 5, 8b, 9, 10, 13, 14		Not required	-
Professional use of dry hydraulic building and construction material (indoor, outdoor)	2		P1 mask (FF, FM)	APF = 4
	9, 26		A) P2 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 10 APF = 4
	5, 8a, 8b, 14		A) P3 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 20 APF = 4
	19		P2 mask (FF, FM)	APF = 10
Professional uses of wet suspensions of hydraulic building and construction materials	11		A) P2 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 10 APF = 4
	2, 5, 8a, 8b, 9, 10, 13, 14, 19		Not required	-

* PROC's are identified uses and defined in section 16.2.

An overview of the APFs of different RPE (according to EN 529:2005) can be found in the glossary of MEASE (16). Any RPE as defined above shall only be worn if the following principles are implemented in parallel: The duration of work (compare with "duration of exposure" above) should reflect the additional physiological stress for the worker due to the breathing resistance and mass of the RPE itself, due to the increased thermal stress by enclosing the head. In addition, it shall be considered that the worker's capability of using tools and of communicating are reduced during the wearing of RPE. For reasons as given above, the worker should therefore be (i) healthy (especially in view of medical problems that may affect the use of RPE), (ii) have suitable facial characteristics reducing leakages between face and mask (in view of scars and facial hair). The recommended devices above which rely on a tight face seal will not provide the required protection unless they fit the contours of the

face properly and securely. The employer and self-employed persons have legal responsibilities for the maintenance and issue of respiratory protective devices and the management of their correct use in the workplace. Therefore, they should define and document a suitable policy for a respiratory protective device programme including training of the workers.

8.2.3 Environmental exposure controls

Air

Environmental exposure control for the emission of cement particles into air has to be in accordance with the available technology and regulations for the emission of general dust particles. Storing, loading or unloading cement in bulk prior to further transportation in bulk, blending cement in bulk or using cement in bulk other than at a construction site, including the bagging of cement and cement mixtures, the batching of ready-mixed concrete and the manufacture of concrete blocks and other cement products, requires a permit under the Environmental Permitting Regulations 2010.

Water

Do not wash cement into sewage systems or into bodies of water, to avoid high pH. Above pH 9 negative eco-toxicological impacts are possible.

Soil and terrestrial environment

No special emission control measures are necessary for the exposure to the terrestrial environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

This information applies to the whole mixture.

- (a) Appearance: Dry cement is a finely ground solid inorganic material (grey or white powder). Main particle size: 5-30 µm
- (b) Odour: Odourless
- (c) Odour threshold: No odour threshold, odourless
- (d) pH: (T = 20°C in water, water-solid ratio 1:2): 11-13.5
- (e) Melting point: $\geq 1,250^{\circ}\text{C}$
- (f) Initial boiling point and boiling range: Not applicable as under normal atmospheric conditions, melting point $\geq 1,250^{\circ}\text{C}$
- (g) Flash point: Not applicable as is not a liquid
- (h) Evaporation rate: Not applicable as is not a liquid
- (i) Flammability (solid, gas): Not applicable as is a solid which is non combustible and does not cause or contribute to fire through friction
- (j) Upper/lower flammability or explosive limits: Not applicable as is not a flammable gas
- (k) Vapour pressure: Not applicable as melting point $\geq 1,250^{\circ}\text{C}$
- (l) Vapour density: Not applicable as melting point $\geq 1,250^{\circ}\text{C}$
- (m) Relative density: 2.75-3.20; Apparent density: 0.9-1.5 g/cm³
- (n) Solubility(ies) in water (T = 20°C): slight (0.1-1.5 g/l)
- (o) Partition coefficient: n-octanol/water: Not applicable as is inorganic mixture
- (p) Auto-ignition temperature: Not applicable (no pyrophoricity – no organo-metallic, organo-metalloid or organo-phosphine bindings or of their derivatives, and no other pyrophoric constituent in the composition)
- (q) Decomposition temperature: Not applicable as no organic peroxide present
- (r) Viscosity: Not applicable as not a liquid
- (s) Explosive properties: Not applicable. Not explosive or pyrotechnic. Not in itself capable by chemical reaction of producing gas at such temperature and pressure and

- at such a speed as to cause damage to the surroundings. Not capable of a self-sustaining exothermic chemical reaction.
- (t) Oxidising properties: Not applicable as does not cause or contribute to the combustion of other materials

9.2 Other information

Not applicable.

SECTION 10: Stability and reactivity

10.1 Reactivity

When mixed with water, cements will harden into a stable mass that is not reactive in normal environments.

10.2 Chemical stability

Dry cements are stable as long as they are properly stored (see Section 7) and compatible with most other building materials. They should be kept dry.

Contact with incompatible materials should be avoided. Wet cement is alkaline and incompatible with acids, with ammonium salts, with aluminium or other non-noble metals. Cement dissolves in hydrofluoric acid to produce corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates in cement react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

10.3 Possibility of hazardous reactions

Cements do not cause hazardous reactions.

10.4 Conditions to avoid

Humid conditions during storage may cause lump formation and loss of product quality.

10.5 Incompatible materials

Acids, ammonium salts, aluminium or other non-noble metals. Uncontrolled use of aluminium powder in wet cement should be avoided as hydrogen is produced.

10.6 Hazardous decomposition products

Cements will not decompose into any hazardous products.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Hazard class	Cat	Effect	Reference
Acute toxicity - dermal	-	Limit test, rabbit, 24 hours contact, 2,000 mg/kg body weight – no lethality. Based on available data, the classification criteria are not met.	(2)
Acute toxicity - inhalation	-	No acute toxicity by inhalation observed. Based on available data, the classification criteria are not met.	(9)
Acute toxicity - oral	-	No indication of oral toxicity from studies with cement kiln dust.	Literature survey

		Based on available data, the classification criteria are not met.	
Skin corrosion/irritation	2	Cement in contact with wet skin may cause thickening, cracking or fissuring of the skin. Prolonged contact in combination with abrasion may cause severe burns.	(2) Human experience
Serious eye damage/irritation	1	Portland cement clinker caused a mixed picture of corneal effects and the calculated irritation index was 128. Common cements contain varying quantities of Portland cement clinker, blast furnace slag, gypsum and limestone. Direct contact with cement may cause corneal damage by mechanical stress, immediate or delayed irritation or inflammation. Direct contact by larger amounts of dry cement or splashes of wet cement may cause effects ranging from moderate eye irritation (e.g. conjunctivitis or blepharitis) to chemical burns and blindness.	(10), (11)
Skin sensitisation	1	Some individuals may develop eczema upon exposure to wet cement dust, caused either by the high pH which induces irritant contact dermatitis after prolonged contact, or by an immunological reaction to soluble Cr (VI) which elicits allergic contact dermatitis. The response may appear in a variety of forms ranging from a mild rash to severe dermatitis and is a combination of the two above mentioned mechanisms. If the cement contains a soluble Cr (VI) reducing agent and as long as the mentioned period of effectiveness of the chromate reduction is not exceeded, a sensitising effect is not expected [Reference (3)].	(3), (4)
Respiratory sensitisation	-	There is no indication of sensitisation of the respiratory system. Based on available data, the classification criteria are not met.	(1)
Germ cell mutagenicity	-	No indication. Based on available data, the classification criteria are not met.	(12), (13)
Carcinogenicity	-	No causal association has been established between Portland cement exposure and cancer. The epidemiological literature does not support the designation of Portland cement as a suspected human carcinogen. Portland cement is not classifiable as a human carcinogen (According to ACGIH A4: Agents that cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity that are sufficient to classify the agent with one of the other notations.). Based on available data, the classification criteria are not met.	(1) (14)
Reproductive toxicity	-	Based on available data, the classification criteria are not met.	No evidence from human experience
STOT-single exposure	3	Cement dust may irritate the throat and respiratory tract. Coughing, sneezing, and shortness of breath may occur following exposures in excess of occupational exposure limits. Overall, the pattern of evidence clearly indicates that occupational exposure to cement dust has produced deficits in respiratory function. However, evidence available at the	(1)

		present time is insufficient to establish with any confidence the dose-response relationship for these effects.	
STOT-repeated exposure	-	There is an indication of COPD. The effects are acute and due to high exposures. No chronic effects or effects at low concentration have been observed. Based on available data, the classification criteria are not met.	(15)
Aspiration hazard	-	Not applicable as cements are not used as an aerosol.	

Apart from skin sensitisation, Portland cement clinker and common cements have the same toxicological and eco-toxicological properties.

Medical conditions aggravated by exposure

Inhaling cement dust may aggravate existing respiratory system disease(s) and/or medical conditions such as emphysema or asthma and/or existing skin and/or eye conditions.

SECTION 12: Ecological information

12.1 Toxicity

The product is not hazardous to the environment. Ecotoxicological tests with Portland cement on *Daphnia magna* [Reference (5)] and *Selenastrum coli* [Reference (6)] have shown little toxicological impact. Therefore LC50 and EC50 values could not be determined [Reference (7)]. There is no indication of sediment phase toxicity [Reference (8)]. The addition of large amounts of cement to water may, however, cause a rise in pH and may, therefore, be toxic to aquatic life under certain circumstances.

12.2 Persistence and degradability

Not relevant. After hardening, cement presents no toxicity risks.

12.3 Bioaccumulative potential

Not relevant. After hardening, cement presents no toxicity risks.

12.4 Mobility in soil

Not relevant. After hardening, cement presents no toxicity risks.

12.5 Results of PBT and vPvB assessment

Not relevant. After hardening, cement presents no toxicity risks.

12.6 Other adverse effects

Not relevant.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Do not dispose of into sewage systems or surface waters.

Product - cement that has exceeded its shelf life

EWG entry: 10 13 99 (Wastes not otherwise specified)

(and when demonstrated that it contains more than 0.0002% soluble Cr (VI)): shall not be used/sold other than for use in controlled closed and totally automated processes or should be recycled or disposed of according to local legislation or treated again with a reducing agent.

Product - unused residue or dry spillage

EWC entry: 10 13 06 (other particulates and dust)

Pick up dry unused residue or dry spillage as is. Mark the containers. Possibly reuse depending upon shelf life considerations and the requirement to avoid dust exposure. In case of disposal, harden with water and dispose according to “Product – after addition of water, hardened”

Product – slurries

Allow to harden, avoid entry in sewage and drainage systems or into bodies of water (e.g. streams) and dispose of as explained below under “Product - after addition of water, hardened”.

Product - after addition of water, hardened

EWC entries: 10 13 14 (waste from manufacturing of cement – waste concrete or concrete sludge) or 17 01 01 (construction and demolition wastes - concrete).

Dispose of according to the local legislation. Avoid entry into the sewage water system. Dispose of the hardened product as concrete waste. Due to the inertisation, concrete waste is not a dangerous waste.

Packaging

EWC entries: 15 01 01 (waste paper and cardboard packaging). 15 01 02 (Plastic packaging)

Completely empty the packaging and process it according to local legislation.

SECTION 14: Transport information

Cement is not covered by the international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID), therefore no classification is required. No special precautions are needed apart from those mentioned under Section 8.

14.1 UN number

Not relevant

14.2 UN proper shipping name

Not relevant

14.3 Transport hazard class(es)

Not relevant

14.4 Packing group

Not relevant

14.5 Environmental hazards

Not relevant

14.6 Special precautions for user

Not relevant

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not relevant

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Cement is a mixture according to REACH and is not subject to registration. Cement clinker is exempt from registration (Art 2.7 (b) and Annex V.10 of REACH).

The marketing and use of cement is subject to a restriction on the content of soluble Cr (VI) (REACH Annex XVII point 47 Chromium VI compounds)

National regulatory information

CONIAC Health Hazard Information Sheet No 26 (CEMENT)

Health & Safety at Work, etc. Act 1974

Control of Substances Hazardous to Health Regulations (COSHH) 2002

Control of Substances Hazardous to Health (Amendment) Regulations 2004

Environmental Protection Act 1990

HSE Guidance Note EH40 (Workplace Exposure Limits)

Any authorised manual on First Aid by St.John's/St. Andrews/Red Cross

Manual Handling Operations Regulations 1992 (as amended)

PORTLAND CEMENT DUST – criteria document for an occupational exposure limit. June 1994 (ISBN 07176 – 0763 – 1)

HSE Guidance Notes EH26 (Occupational Skin Diseases – Health and Safety Precautions)

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information**16.1 Indication of changes**

This MSDS (Version 3 September 2015) replaces Version 2 'Material Safety Data Sheet – Common Cements' which was published in May 2015. It has been reviewed and rewritten to reflect the new structure to meet changes in legislation to the requirements of the CLP regulations (Regulation EC 1272/2008) according to guidelines published by CEMBUREAU, the representative organisation of the cement industry in Europe.

16.2 Identified uses and use descriptors and categories

The table below gives an overview of all relevant identified uses of cement or cement containing hydraulic binders. All the uses have been grouped in these identified uses because of the specific conditions of exposure for human health and environment. For each specific use, a set of risk management measures or localised controls has been derived (see section 8) which need to be put in place by the user of cement or cement containing hydraulic binders to bring the exposure to an acceptable level.

PROC	Identified Uses - Use Description	Manufacture/ Formulation of	Professional/ Industrial use of
		building and construction materials	
2	Use in closed, continuous process with occasional controlled exposure, e.g. industrial or professional manufacture of hydraulic binders.	X	X
3	Use in closed batch process, e.g. industrial or professional manufacture of ready-mix concrete.	X	X
5	Mixing or blending in batch process for formulation of mixtures and articles, e.g. industrial or professional manufacture of pre-cast concrete.	X	X
7	Industrial spraying, e.g. Industrial use of wet suspensions of hydraulic binders by spraying		X
8a	Transfer of substance or mixture from/to vessels/large containers at non-dedicated facilities, e.g. use of cement in bags to prepare mortar		X
8b	Transfer of substance or mixture from/to vessels/large containers at dedicated facilities, e.g. filling of silos or road/ rail tankers at cement plants.	X	X
9	Transfer of substance or mixture into small containers, e.g. filling of cement bags in cement plants.	X	X
10	Roller application or brushing, e.g. Products to improve adherence between building surfaces and finishing products		
11	Non-Industrial spraying, e.g. professional use of wet suspensions of hydraulic binders by spraying.		X
13	Treatment of articles by dipping and pouring, e.g. covering of construction product with a layer to improve the performance of the product.		X
14	Production of mixtures or articles by tableting, compression extrusion, palletisation, e.g. production of floor tiling.	X	X
19	Hand-mixing with intimate contact and only PPE available, e.g. mixture of wet hydraulic binder on a construction site.		X
22	Potentially closed processing operations with minerals/metals at elevated temperature in Industrial setting, e.g. production of bricks.		X
26	Handling of solid inorganic substances at ambient temperature, e.g. mixture of wet hydraulic binders.	X	X

16.3 Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
ADR/RID	European Agreements on the transport of Dangerous goods by Road/Railway
APF	Assigned protection factor
CAS	Chemical Abstracts Service

CLP	Classification, labelling and packaging (Regulation (EC) No 1272/2008)
COPD	Chronic Obstructive Pulmonary Disease
DNEL	Derived no-effect level
EC50	Half maximal effective concentration
ECHA	European Chemicals Agency
EINECS	European INventory of Existing Commercial chemical Substances
EPA	Type of high efficiency air filter
ES	Exposure scenario
EWC	European Waste Catalogue
FF P	Filtering facepiece against particles (disposable)
FM P	Filtering mask against particles with filter cartridge
GefStoffV	Gefahrstoffverordnung
HEPA	Type of high efficiency air filter
H&S	Health and Safety
IATA	International Air Transport Association
IMDG	International agreement on the Maritime transport of Dangerous Goods
LC50	Median lethal dose
MEASE	Metals estimation and assessment of substance exposure, EBRC Consulting GmbH for Eurometaux, http://www.ebrc.de/industrial-chemicals-reach/projects-and-references/mease.php
MS	Member State
MSDS	Material safety Data Sheet
OELV	Occupational exposure limit value
PBT	Persistent, bio-accumulative and toxic
PNEC	Predicted no-effect concentration
PROC	Process category
RE	Repeated exposure
REACH	Registration, Evaluation and Authorisation of Chemicals
RPE	Respiratory protective equipment
SCOEL	Scientific Committee on Occupational Exposure Limit Values
SDS	Safety Data Sheet
SE	Single exposure
STP	Sewage treatment plant
STOT	Specific Target Organ Toxicity
TLV-TWA	Threshold Limit Value-Time-Weighted Average
TRGS	Technische Regeln für Gefahrstoffe
VLE-MP	Exposure limit value-weighted average in mg by cubic meter of air
vPvB	Very persistent, very bio-accumulative
WEL	Workplace exposure limit
w/w	Weight by weight
WWTP	Waste water treatment plant

16.4 Key literature references and sources of data

- (1) *Portland Cement Dust - Hazard assessment document EH75/7, UK Health and Safety Executive, 2006.*
Available from: <http://www.hse.gov.uk/pubns/web/portlandcement.pdf>.
- (2) *Observations on the effects of skin irritation caused by cement, Kietzman et al, Dermatosen, 47, 5, 184-189 (1999).*
- (3) *European Commission's Scientific Committee on Toxicology, Ecotoxicology and the Environment (SCTEE) opinion of the risks to health from Cr (VI) in cement (European Commission, 2002).*
http://ec.europa.eu/health/archive/ph_risk/committees/sct/documents/out158_en.pdf.
- (4) *Epidemiological assessment of the occurrence of allergic dermatitis in workers in the construction industry related to the content of Cr (VI) in cement, NIOH, Page 11, 2003.*

- (5) *U.S. EPA, Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, 3rd ed. EPA/600/7-91/002, Environmental Monitoring and Support Laboratory, U.S. EPA, Cincinnati, OH (1994a) and 4th ed. EPA-821-R-02-013, US EPA, office of water, Washington D.C. (2002).
- (6) *U.S. EPA, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 4th ed. EPA/600/4-90/027F, Environmental Monitoring and Support Laboratory, U.S. EPA, Cincinnati, OH (1993) and 5th ed. EPA-821-R-02-012, US EPA, office of water, Washington D.C. (2002).
- (7) *Environmental Impact of Construction and Repair Materials on Surface and Ground Waters. Summary of Methodology, Laboratory Results, and Model Development.* NCHRP report 448, National Academy Press, Washington, D.C., 2001.
- (8) *Final report Sediment Phase Toxicity Test Results with Corophium volutator for Portland clinker prepared for Norcem A.S. by AnalyCen Ecotox AS*, 2007.
- (9) *TNO report V8801/02, An acute (4-hour) inhalation toxicity study with Portland Cement Clinker CLP/GHS 03-2010-fine in rats*, August 2010.
- (10) *TNO report V8815/09, Evaluation of eye irritation potential of cement clinker G in vitro using the isolated chicken eye test*, April 2010.
- (11) *TNO report V8815/10, Evaluation of eye irritation potential of cement clinker W in vitro using the isolated chicken eye test*, April 2010.
- (12) *Investigation of the cytotoxic and proinflammatory effects of cement dusts in rat alveolar macrophages*, Van Berlo et al, Chem. Res. Toxicol., 2009 Sept; 22(9):1548-58.
- (13) *Cytotoxicity and genotoxicity of cement dusts in A549 human epithelial lung cells in vitro*; Gminski et al, Abstract DGPT conference Mainz, 2008.
- (14) *Comments on a recommendation from the American Conference of governmental industrial Hygienists to change the threshold limit value for Portland cement*, Patrick A. Hessel and John F. Gamble, EpiLung Consulting, June 2008.
- (15) *Prospective monitoring of exposure and lung function among cement workers, Interim report of the study after the data collection of Phase I-II 2006-2010*, Hilde Notø, Helge Kjuus, Marit Skogstad and Karl-Christian Nordby, National Institute of Occupational Health, Oslo, Norway, March 2010.
- (16) *MEASE, Metals estimation and assessment of substance exposure*, EBRC Consulting GmbH for Eurometaux, <http://www.ebrc.de/industrial-chemicals-reach/projects-and-references/mease.php>
- (17) *Occurrence of allergic contact dermatitis caused by chromium in cement. A review of epidemiological investigations*, Kåre Lenvik, Helge Kjuus, NIOH, Oslo, December 2011.

16.5 Relevant H-Statements

H318: Causes serious eye damage
H315: Causes skin irritation
H317: May cause an allergic skin reaction
H335: May cause respiratory irritation

16.6 Training advice

In addition to health, safety and environmental training programs for their workers, companies must ensure that workers read, understand and apply the requirements of this SDS.

16.7 Further information

The data and test methods used for the purpose of classification of common cements, are given or referred to in section 11.1.

16.8 Disclaimer

The information on this data sheet reflects the currently available knowledge and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product, including the use of the product in combination with any other product or any other process, is the responsibility of the user.

It is implicit that the user is responsible for determining appropriate safety measures and for applying the legislation covering his/her own activities.

For further information contact:

Hanson House
14 Castle Hill
Maidenhead
SL6 4JJ

Customer Services:

Tel: 01628 774 100
Email: enquiries@hanson.com

		COSHH Risk Assessment for No: Wet Concrete		COSHH NO: 003			
Describe the activity or work process. <i>(Include how long and how often this is carried out and the quantity of substance used)</i>		Ready-mixed concrete is a cementitious material which may be cement or a mixture of cement with an addition [e.g. fly ash, ground granulated blast furnace slag or silica fume]. Used daily on site to construction piles.					
Location of process being carried out?		On construction sites.					
Identify the persons at risk:		Employees <i>(including trainees)</i> ☒	Contractors ☒	Public <i>(including students)</i> ☐			
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet for this substance should be attached to this assessment)</i>		Wet concrete is produced by many manufactory companies the MSDS sheet is for Hanson wet concrete.					
Classification (state the category of danger)							
 ☐ Acute toxicity Cat 1-3	 ☐ Serious health hazard	 ☐ Aquatic Environment					
 ☒ Acute toxicity (cat 4)	 ☐ Flammable	 ☐ Explosive					
 ☒ Corrosive	 ☐ Oxidising	 ☐ Gas under pressure					
Hazard Type							
☐ Gas	☐ Vapour	☐ Mist	☐ Fume	☐ Dust	☒ Liquid	☐ Solid	☐ Other (State)
Route of Exposure							
☐ Inhalation	☒ Skin	☒ Eyes	☒ Ingestion	☐ Other	(State)		
Physical and Chemical Properties							
Colour:	Grey	Odour:	Slight, earthy odour.				
pH:	Typically 10-14	Initial Boiling Point & Range:	N/A				
Flash Point:	N/A	Upper/Lower Flammability or Exploive	N/A				
Vapour Pressure:	N/A	Vapour Density:	N/A				
Relative Density	Above 2.0	Solubility:	Dependant on aggregate type				
Auto-ignition Temperature:	N/A	Viscosity:	N/A				

State the Risks to Health from Identified Hazards

Skin: Alkali burns, a form of skin ulceration, may result from contact with freshly mixed concrete. Allergic contact dermatitis may be caused by individual sensitivity to chromium compounds in cement.

Eyes: Wet concrete in contact with eyes can cause irritation, inflammation or serious alkali burns, which may lead to blindness.

Ingestion: Swallowing small amounts of fresh concrete is unlikely to cause any significant reaction. Larger amounts can cause irritation of the stomach and intestines.

Control Measures: (for example extraction, ventilation, training, supervision).

Skin: Exposed skin should be kept covered when working with wet concrete.

Eyes: Keep eyes covered with goggles and safety glasses while working when using wet concrete.

Ingestion: Wash hands thoroughly before eating or drinking.

Is health surveillance or monitoring required?

Yes

☐

No

☒
Personal Protective Equipment (state type and standard)

 ☐		 ☐	
Dust mask		Visor	
 ☐		 ☒	
Respirator		Goggles	
 ☒	Impermeable gloves should be worn.	 ☒	Overalls and/or long sleeved jackets and full length trousers should be worn to protect skin from contact with wet concrete.
Gloves		Overalls	
 ☐		 ☐	
Footwear		Other	

First Aid Measures

Skin: When skin contact occurs with wet concrete, either directly or through saturated clothing, the concrete must be washed off immediately with soap and water. If wet concrete enters boots or gloves, or saturates clothing, remove article immediately and wash before re-use.

Eyes: Immediately and thoroughly irrigate with copious amounts of eye wash solution or clean water. Seek medical attention immediately.

Ingestion: Remove to fresh air. If person is conscious, rinse out mouth and give water to drink. Seek medical advice.

Storage

Keep in closed, labelled containers as purchased. Directions on labels should be read and followed.

Disposal of Substances & Contaminated Containers

Hazardous Waste ☒ Skip ☐ Return to Depot ☐ Return to Supplier ☐ Other ☐

(If Other Please State):

Is exposure adequately controlled?

Yes

☒

No

☐
Assessment Approval:

Revision:	Name:	Position:	Date:	Review Date:
A	C Newman	HSQE & Operation Manager	18.06.2021	17.06.2022
B	C Newman	HSQE & Operation Manager	04.05.2022	03.05.2023

Ready-mixed Concrete And Mortar

Material Safety Data Sheet (MSDS)



1. IDENTIFICATION OF SUBSTANCE/ PREPARATION & COMPANY/UNDERTAKING

Name of substance: Ready-mixed Concrete And Mortar

This safety datasheet applies to cement-containing products

2. HAZARD IDENTIFICATION

Classification according to Directive 67/548/EEC:

Hazardous – Irritant

R34, R38, R41, R43

Classification according to Regulation EC 1272/2008:

Signal Word: Danger

STOT SE3, Eye damage 1, Skin Sensitisation 1, Skin Irritation 2.

H315, H317, H318, H335, H372

Wet concrete can cause serious alkali burns if in direct contact with skin or eyes.

Skin:

Alkali burns, a form of skin ulceration, may result from contact with freshly mixed concrete.

Contact with strongly alkaline solutions such as concrete can initially cause nerve damage. Chemical burns may occur without the person being aware because they do not feel any pain.

Contact with wet cement mixes such as wet concrete can cause skin disease. Irritant contact dermatitis is caused by the combination of the wetness, alkalinity and abrasiveness of the ready-mixed concrete.

Allergic contact dermatitis may be caused by individual sensitivity to chromium compounds in cement.

Eyes:

Wet concrete in contact with eyes can cause irritation, inflammation or serious alkali burns, which may lead to blindness.

Ingestion:

Swallowing small amounts of fresh concrete is unlikely to cause any significant reaction. Larger amounts can cause irritation of the stomach and intestines.

Inhalation:

Wet concrete is not likely to create dust, but respirable dust may be released by the surface treatment and cutting or drilling of hardened concrete. If inhaled in excessive quantities over a prolonged period or extended period, respirable dust can constitute a long term health hazard.



Dusts containing Respirable Crystalline Silica* (quartz) present a greater hazard. Long-term exposure to respirable dust can lead to respiratory system damage and disease. Respirable crystalline silica has been associated with the lung disease silicosis.

The quartz content of the product will vary, and is related to the type of aggregate used in the production of the concrete. Advice on the quartz content and other chemical information is available from the supplying unit.

*Any references to respirable silica in this document only apply if hardened concrete is cut, drilled, milled or planed.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ready-mixed concrete is a mixture of:

- A cementitious material which may be cement or a mixture of cement with an addition (e.g. fly ash, ground granulated blast furnace slag or silica fume).
- Fine and coarse aggregate.
- Water
- Admixtures or additives may be added to modify the properties of the fresh or hardened concrete. Pigments may be added to colour the product.

Hazardous ingredients:

Substance Name	EC No	%	DSD Classification	CLP Classification
Portland Cement	266-043-4	10-20	Xi; R34, R38,R41,R43	H315, 317,318, 335
Crystalline Silica*	238-878-4	Variable	Xn; R48/20	H372

4. FIRST AID MEASURES

Inhalation:

If concrete dust is inhaled, remove to fresh air. If breathing difficulties or inflammation are experienced, seek medical attention.

Skin Contact:

Where skin contact occurs with wet concrete, either directly or through saturated clothing, the concrete must be washed off immediately with soap and water.

If wet concrete enters boots or gloves, or saturates clothing, remove article immediately and wash before re-use.

Eye Contact:

Immediately and thoroughly irrigate with copious amounts of eye wash solution or clean water. Seek medical attention immediately.

Ingestion:

Remove to fresh air. If person is conscious, rinse out mouth and give water to drink. Seek medical advice.

5. FIRE FIGHTING MEASURES

Concrete is non-flammable and is not combustible.

Suitable Extinguishing Media: Not applicable.

Unsuitable Extinguishing Media: Not applicable.

Special Exposure Hazards in Fire: None.

Special Protective Equipment for Fire Fighters: None.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Avoid contact with skin and eyes. Wear impervious clothing, gloves and boots.
Wear eye protection. See Section 8 for guidance on personal protective equipment.
See Section 7 for guidance on handling the product.

Environmental Precautions:

Prevent wet concrete from entering watercourses, ditches and drains.

Methods for Cleaning:

Clean up any spillage before the concrete hardens, using suction or mechanical removal methods.

7. HANDLING AND STORAGE

Handling:

Avoid skin and eye contact. Wet concrete can cause serious alkali burns if in direct contact with skin or eyes. Contact with concrete may also cause skin disease by the combination of the wetness, alkalinity and abrasiveness of the ready-mixed concrete. Allergic contact dermatitis may be caused by individual sensitivity to chromium compounds which may occur in cement.

Do not sit or kneel on wet, un-hardened concrete without wearing the correct personal protective equipment.

Where concrete enters boots or gloves, or saturates clothing, the article should be removed immediately and washed before further use.

Refer to Section 8 for guidance on personal protection.

Storage:

Ready-mixed concrete is normally used upon receipt. However, the hardening process of ready-mixed concrete can be delayed by the use of additions and/ or admixtures, extending the period during which the precautions given in this data sheet should continue to be taken and during which time access by unauthorised persons should be prevented.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Take Measures to Prevent:

- a) Direct skin or eye contact with fresh concrete. It is also important not to kneel or sit on the fresh concrete as harmful contact can occur through saturated clothing.
- b) Inhalation of dust created by the surface treatment and cutting of hardened concrete which may contain quartz. If inhaled in excessive quantities over an extended period, respirable dust containing quartz can constitute a long term health hazard.

Exposure Control Limits / Source

Total Dust	W.E.L.	10mg/m ³	8 Hrs	T.W.A.
Respirable Dust	W.E.L.	4mg/m ³	8 Hrs	T.W.A.
Respirable Quartz (Crystalline Silica SiO ₂)	W.E.L.	0.1mg/m ³	8 Hrs	T.W.A.

W.E.L. = Workplace Exposure Limit

T.W.A. = Time Weighted Average

Control Measures:

Dust caused by cutting or drilling hardened concrete should be controlled by containment, suppression and extraction/ filtration where possible.

Inhalation:

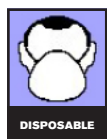
S22 – Do not breathe dust.

Eyes, Skin and Hands:

S24/25 - Avoid contact with skin and eyes.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/ 39 - Wear suitable protective clothing, gloves and eye / face protection.



EN149 FFP3

Respiratory Protection:

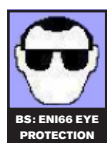
Respiratory protection is not usually required when working with wet concrete, If work creates dust (e.g. when cutting or drilling hardened concrete), and engineering controls do not keep dust levels below the levels shown in the table above, then suitable respiratory protection should be used to protect against inhalation of dust, and to ensure exposure is below the Workplace Exposure Levels given in the table.



PROTECT HANDS

Hand Protection:

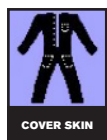
Impermeable gloves should be worn.



BS: EN166 EYE PROTECTION
IF CONTACT LIKELY

Eye Protection:

Eye protection should be worn to prevent the product entering the eyes (including dust).



COVER SKIN
KEEP SKIN COVERED

Skin Protection:

Overalls and/or long-sleeved jackets and full length trousers should be worn to protect skin from contact with wet concrete. Outer clothing should be waterproof if contact with wet concrete is likely. Wear impermeable boots to protect feet. Safety wellington boots should be worn If working with wet concrete, with waterproof trousers pulled over them to help prevent concrete entering the boots. If concrete saturates clothing, or enters gloves or boots, remove the articles immediately and wash before wearing again.

In addition to the above, the use of skin barrier cream and aftercare products is also recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Grey, granular paste unless pigmented.

Odour: Slight, earthy odour

pH: Typically 10-14

Boiling Point / Range: Not determined

Melting Point / Range: Not determined

Flash Point: Not applicable

Auto Flammability: Not applicable

Flammability: Not applicable

Explosive Properties: Not applicable

Oxidising Properties: Not applicable

Vapour Pressure: Not applicable

Relative Density: Above 2.0

Water Solubility: Dependant on aggregate type

Fat Solubility: Not determined

10. STABILITY AND REACTIVITY

Conditions to Avoid:

None

Materials to Avoid:

None

Hazardous Decomposition Products:

None

11. TOXICOLOGICAL INFORMATION

Inhalation:

If inhaled over a prolonged or extended period, respirable dust from drilling or cutting hardened concrete can lead to respiratory system damage and disease. Respirable crystalline silica* has been associated with the lung disease silicosis.

Skin Contact:

Skin contact with wet concrete could result in serious alkali burns. Contact with concrete may also cause skin disease by the combination of the wetness, alkalinity and abrasiveness of the ready-mixed concrete. Allergic contact dermatitis may be caused by individual sensitivity to chromium compounds which may occur in cement.

Eye Contact:

Wet concrete in contact with eyes can cause irritation, inflammation or serious alkali burns, which may lead to blindness.

Ingestion:

Ingestion is very unlikely. Ingestion of large amounts may cause irritation of the stomach and intestines. Seek medical attention.

12. ECOLOGICAL INFORMATION

Environmental Assessment:

When used and disposed of as intended, no adverse environmental effects are foreseen, and concrete should not pose a significant ecological hazard.

Prevent wet concrete entering watercourses, ditches & drains.

13. DISPOSAL CONSIDERATION

Safe Handling of Residues / Waste Product:

Hardened concrete is classed as non hazardous and 'inert' but should be disposed of in accordance with local and national legal requirements.

Hardened concrete can be readily recycled.

14. TRANSPORT INFORMATION

Special Carriage Requirements:

None – not classified as dangerous for transport.

15. REGULATORY INFORMATION

67/548/EEC:

Irritant Risk Phrases

R34 – May cause burns. R38 - Irritating to the skin.

R41 – Risk of serious damage to the eyes.

R43 – May cause sensitisation by skin contact.

Safety Phrases

S2 – Keep out of reach of children.

S24/25 – Avoid contact with skin and eyes.

S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/ 39 - Wear suitable protective clothing, gloves and eye / face protection.

EC 1272/2008: Danger

Eye Dam. 1, Skin Sens. 1, Skin Irrit 2; STOT SE3 (Inhalation of dust)

Hazard Statements

H315 – Causes skin irritation.

H317 – May cause allergic skin reaction.

H318 – Causes serious eye damage.

H335 – May cause respiratory irritation.

H372 – Causes damage to organs through prolonged and repeated exposure (inhalation of respirable silica if hardened concrete is cut or drilled).

Precautionary Statements

P102 – Keep out of reach of children.

P261 – Avoid breathing dust.

P262 – Do not get in eyes, on skin, or on clothing.

P281 – Use personal protective equipment as required (see Section 8)

16. OTHER INFORMATION

Training Advice:

Wear and use of PPE.

Recommended Uses and Applications:

Industrial and construction applications.

Further Information:

Contact enquiries@hanson.com for further information.

HSE Guidance Note EH40/2007 PPE Regulations 1992

COSHH Regulations 2002 Environmental Protection Act 1990

HSE Crystalline Silica EH59

Dangerous Substances Directive (DSD) 67/548/EEC

Classification, Labelling and Packaging Regulations (CLP) EC1272/2008

Further copies of this Safety Data Sheet may be obtained from Hanson UK.

For further information contact:

Hanson House
14 Castle Hill
Maidenhead
SL6 4JJ

Customer Services:

Tel: 01628 774 100
Email: enquiries@hanson.com

		COSHH Risk Assessment for No: Diesel		COSHH NO: 004			
Describe the activity or work process. <i>(Include how long and how often this is carried out and the quantity of substance used)</i>		Diesel is used to power most vehicles, plant and equipment. Refilling is done at least once every two days.					
Location of process being carried out?		On construction site and in the yard.					
Identify the persons at risk:		Employees <i>(including trainees)</i> ☒	Contractors ☒	Public <i>(including students)</i> ☐			
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet for this substance should be attached to this assessment)</i>		Diesel is supplied by several different companies. MSD sheet for Esso diesel.					
Classification (state the category of danger)							
 ☐ Acute toxicity Cat 1-3	 ☐ Serious health hazard	 ☒ Aquatic Environment					
 ☒ Acute toxicity (cat 4)	 ☒ Flammable	 ☐ Explosive					
 ☐ Corrosive	 ☐ Oxidising	 ☐ Gas under pressure					
Hazard Type							
☐ Gas	☐ Vapour	☐ Mist	☐ Fume	☐ Dust	☒ Liquid	☐ Solid	☐ Other (State)
Route of Exposure							
☐ Inhalation	☒ Skin	☒ Eyes	☒ Ingestion	☐ Other	(State)		
Physical and Chemical Properties							
Colour:	White	Odour:	Petroleum/solvent				
Melting Point:	N/A	Initial Boiling Point & Range:	>180°C [356°F]				
Flash Point:	>56°C [133°F]	Upper/Lower Flammability or Exploive					
Vapour Pressure:	<0.04kPa [0.3mm Hg] at 20°C	Vapour Density:	>2 at 101kPa				
Relative Density	0.85	Solubility:	Negligible				
Auto-ignition Temperature:	>250°C [482°F]	Viscosity:	2cSt[2mm²/sec				

State the Risks to Health from Identified Hazards			
Skin: Repeated exposure may cause skin dryness or cracking. Eyes: Will cause eye irritation. Ingestion: May cause lung damage if swallowed.			
Control Measures: <i>(for example extraction, ventilation, training, supervision).</i>			
Skin: Wear protective gloves and cover all exposed areas of skin when refuelling. Eyes: Wear safety glasses when refuelling. Ingestion: Wash hands thoroughly before eating and drinking.			
Is health surveillance or monitoring required? <div style="text-align: right;"> Yes ☐ No ☒ </div>			
Personal Protective Equipment <i>(state type and standard)</i>			
 ☐ Dust mask		 ☐ Visor	
 ☐ Respirator		 ☒ X Goggles	
 ☒ X Gloves		 ☐ Overalls	
 ☒ X Footwear		 ☐ Other	
First Aid Measures			
Skin: Remove contaminated clothing. Wash effected area with soap and warm water. If irritation occurs seek medical assistance. Eyes: Flush thoroughly with water. If irritation occurs, get medical assistance. Ingestion: Seek immediate medical attention. Do not induce vomiting.			
Storage			
Keep in closed, labelled containers as purchased. Directions on labels should be read and followed.			
Disposal of Substances & Contaminated Containers			
Hazardous Waste ☒ X Skip ☐ Return to Depot ☐ Return to Supplier ☐ Other ☐			
(If Other Please State):			

Is exposure adequately controlled?	Yes ☒ X No ☐			
Assessment Approval:				
Revision:	Name:	Position:	Date:	Review Date:
A	C Newman	HSQE & Operation Manager	18.06.2021	17.06.2022
B	C Newman	HSQE & Operation Manager	04.05.2022	03.05.2023

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SAFETY DATA SHEET

SECTION 1

PRODUCT AND COMPANY IDENTIFICATION

As of the revision date above, this (M)SDS meets the regulations in the United Kingdom & Ireland.

PRODUCT

Product Name: ESSO DIESEL
Product Description: Hydrocarbons and Additives
Product Code: 708110-60
Intended Use: Diesel engine fuel

COMPANY IDENTIFICATION

Supplier: Esso Petroleum Company, Limited
ExxonMobil House
Ermyrn Way
KT22 8UX Leatherhead, Surrey
United Kingdom

**24 Hour Environmental / Health Emergency
Telephone
e-mail**

01372 222 000 (UK) / +44 1372 222 000 (Ireland)

SDS-UK@EXXONMOBIL.COM

SECTION 2

HAZARDS IDENTIFICATION

This material is dangerous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION: | Carc. Cat. 3; R40 | Xn; R65 | R66 | N; R51/53 |

PHYSICAL / CHEMICAL HAZARDS

Material can release vapours that readily form flammable mixtures. Vapour accumulation could flash and/or explode if ignited. Material can accumulate static charges which may cause an incendiary electrical discharge.

HEALTH HAZARDS

Limited evidence of a carcinogenic effect. Harmful: may cause lung damage if swallowed. Repeated exposure may cause skin dryness or cracking. Under conditions of poor personal hygiene and prolonged repeated contact, some polycyclic aromatic compounds (PACs) have been suspected as a cause of skin cancer in humans. May be irritating to the eyes, nose, throat, and lungs. May cause central nervous system depression. High-pressure injection under skin may cause serious damage.

ENVIRONMENTAL HAZARDS

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Note: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3

COMPOSITION / INFORMATION ON INGREDIENTS

This material is regulated as a preparation.

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Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	EINECS / ELINCS	Concentration *	Symbols/Risk Phrases
Fuels, diesel, no. 2	68476-34-6	270-676-1	> 94%	Xn;Carc. Cat. 3;R40, Xn;R65, R66, N;R51/53

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Note: Composition may contain up to 0.5% performance additives and / or dyes. FAME (fatty acid methyl ester) may be present up to 5% - the maximum permitted by European Standard EN 590

SECTION 4 FIRST AID MEASURES**INHALATION**

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

Hydrocarbon Solvents/Petroleum Hydrocarbons- Skin contact may aggravate an existing dermatitis.

SECTION 5 FIRE FIGHTING MEASURES**EXTINGUISHING MEDIA**

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water

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FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Sulphur Oxides, Smoke, Fume, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: >56C (133F) [ASTM D-93]

Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 7.0

Autoignition Temperature: >250 °C (482 °F)

SECTION 6

ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for Personal Protective Equipment.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapour-suppressing foam may be used to reduce vapour. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapour, but may not prevent ignition in enclosed spaces.

Water Spill: Stop leak if you can do so without risk. Eliminate sources of ignition. If the Flash Point exceeds the Ambient Temperature by 10 deg C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7

HANDLING AND STORAGE

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HANDLING

Avoid all personal contact. Use proper bonding and/or earthing procedures. Do not use as a cleaning solvent or other non-motor fuel uses. For use as a motor fuel only. Do not use electronic devices (including but not limited to cellular phones, computers, calculators, pagers or other electronic devices etc) in or around any fuelling operation or storage area unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. Prevent small spills and leakage to avoid slip hazard. Do not siphon by mouth. Material can accumulate static charges which may cause an electrical spark (ignition source).

Static Accumulator: This material is a static accumulator.

STORAGE

Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be earthed and bonded. Drums must be earthed and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters.

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard			Note	Source	Year
Fuels, diesel, no. 2	Stable Aerosol.	TWA	5 mg/m ³			ExxonMobil	2007
Fuels, diesel, no. 2	Vapour.	TWA	200 mg/m ³			ExxonMobil	2007

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s):

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode.

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Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly affect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves. CEN standards EN 420 and EN 374 provide general requirements and lists of glove types.

Eye Protection: If contact with material is likely, chemical goggles are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Chemical/oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid

Colour: Light Colored

Odour: Petroleum/solvent

Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.85

Flash Point [Method]: >56C (133F) [ASTM D-93]

Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 7.0

Autoignition Temperature: >250°C (482°F)

Boiling Point / Range: > 180C (356F)

Vapour Density (Air = 1): > 2 at 101 kPa

Vapour Pressure: < 0.04 kPa (0.3 mm Hg) at 20°C

Evaporation Rate (N-Butyl Acetate = 1): N/D

pH: N/D

Log Pow (n-Octanol/Water Partition Coefficient): > 3.5

Solubility in Water: Negligible

Viscosity: 2 cSt (2 mm²/sec) at 40°C - 4 cSt (4 mm²/sec) at 40°C

Oxidising properties: See Sections 3, 15, 16.

OTHER INFORMATION

Freezing Point: N/D

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Melting Point: N/A

SECTION 10	STABILITY AND REACTIVITY
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STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Open flames and high energy ignition sources.

MATERIALS TO AVOID: Halogens, Strong Acids, Strong Bases, Strong oxidisers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11	TOXICOLOGICAL INFORMATION
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Acute Toxicity

Route of Exposure	Conclusion / Remarks
INHALATION	
Toxicity: LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: Data available.	Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs. Based on test data for structurally similar materials.
INGESTION	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: Data available.	May dry the skin leading to discomfort and dermatitis. Based on test data for structurally similar materials.
Eye	
Irritation: Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

For the product itself:

Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Diesel fuel: Carcinogenic in animal tests. Caused mutations in-vitro. Repeated dermal exposures to high concentrations in test animals resulted in reduced litter size and litter weight, and increased fetal resorptions at maternally toxic doses. Dermal exposure to high concentrations resulted in severe skin irritation with weight loss and some mortality. Inhalation exposure to high concentrations resulted in respiratory tract irritation, lung changes/infiltration/accumulation, and reduction in lung function. Diesel exhaust fumes: Carcinogenic in animal tests. Inhalation exposures to exhaust for 2 years in test animals resulted in lung tumours and lymphoma. Extract of particulate produced skin tumours in test animals. Caused mutations in-vitro.

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Additional information is available by request.

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

More volatile component -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

High molecular wt. component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

Atmospheric Oxidation:

More volatile component -- Expected to degrade rapidly in air

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

European Waste Code: 13 07 01

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

This material is considered as hazardous waste pursuant to Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken

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for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14	TRANSPORT INFORMATION
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LAND (ADR/RID)

Proper Shipping Name: GAS OIL
Proper Shipping Name Suffix: Special Provision 640L
Hazard Class: 3
Classification Code: F1
UN Number: 1202
Packing Group: III
Label(s) / Mark(s): 3
Hazard ID Number: 30
CEFIC Tremcard: 30S1202
Hazchem EAC: 3Y
Transport Document Name: UN1202, GAS OIL, 3, PG III

INLAND WATERWAYS (ADNR)

Proper Shipping Name: GAS OIL
Hazard Class: 3
Hazard ID Number: 30
UN or ID Number: 1202
Packing Group: III
Label(s) / Mark(s): 3
Transport Document Name: UN1202, GAS OIL, 3, PG III

SEA (IMDG)

Proper Shipping Name: GAS OIL
Hazard Class & Division: 3
UN Number: 1202
Packing Group: III
Label(s): 3
EMS Number: F-E, S-E
Transport Document Name: UN1202, GAS OIL, 3, PG III, (56°C c.c.)

AIR (IATA)

Proper Shipping Name: GAS OIL
Hazard Class & Division: 3
UN Number: 1202
Packing Group: III
Label(s): 3
Transport Document Name: UN1202, GAS OIL, 3, PG III

SECTION 15	REGULATORY INFORMATION
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Material is dangerous as defined by the EU Dangerous Substances/Preparations Directives.

CLASSIFICATION: Category 3 Carcinogen. Harmful. Dangerous for the environment.

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EU LABELING:

Symbol: Xn, N



Harmful.



Dangerous for
the environment.

Nature of Special Risk: R40; Limited evidence of a carcinogenic effect. R65; Harmful: may cause lung damage if swallowed. R66; Repeated exposure may cause skin dryness or cracking. R51/53; Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Advice: S2; Keep out of the reach of children. S36/37; Wear suitable protective clothing and gloves. S61; Avoid release to the environment. Refer to special instructions/safety data sheets. S62; If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

Contains: Fuels, diesel, no. 2

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Complies with the following national/regional chemical inventory requirements: EINECS, TSCA, ENCS

Applicable EU Directives and Regulations:

EU Directive:

92/85/EEC [...pregnant workers...recently given birth or...breastfeeding directive]
94/33/EC [...on the protection of young people at work]

SECTION 16

OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE RISK CODES CONTAINED IN SECTION 2 AND 3 OF THIS DOCUMENT (for information only):

R40; Limited evidence of a carcinogenic effect.

R51/53; Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R65; Harmful: may cause lung damage if swallowed.

R66; Repeated exposure may cause skin dryness or cracking.

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

No revision information is available.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to

Product Name: ESSO DIESEL

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handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only

MHC: 1A, 0, 0, 0, 1, 1

PPEC: C

DGN: 7081439XGB (1012120)

	<h1 style="margin: 0;">COSH Risk Assessment for No: Oils & Greases</h1>	COSH NO: 005	
Describe the activity or work process. <i>(Include how long and how often this is carried out and the quantity of substance used)</i>	Engine Oil: Used to lubricant all engines. Gear Oil: Used to lubricant all gear boxes. Hydraulic Oil: Used for all hydraulic systems. Grease: Used as to lubricant bearings on plant and machinery.		
Location of process being carried out?	On construction site and in the yard.		
Identify the persons at risk:	Employees ☒ (including trainees)	Contractors ☐ Public ☐ (including students)	
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet for this substance should be attached to this assessment)</i>	Morris Lubricants Duplex CDX 15W-40 – Engine Oil. Morris Lubricants EP80W-90 - Gear Oil. Morris Lubricants Liquimatic HV46 – Hydraulic Oil. Morris Lubricants K42EP – Grease.		
Classification (state the category of danger)			
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%; text-align: center;">  ☐ Acute toxicity Cat 1-3 </div> <div style="width: 33%; text-align: center;">  ☐ Serious health hazard </div> <div style="width: 33%; text-align: center;">  ☒ Aquatic Environment </div> <div style="width: 33%; text-align: center;">  ☒ Acute toxicity (cat 4) </div> <div style="width: 33%; text-align: center;">  ☐ Flammable </div> <div style="width: 33%; text-align: center;">  ☐ Explosive </div> <div style="width: 33%; text-align: center;">  ☐ Corrosive </div> <div style="width: 33%; text-align: center;">  ☐ Oxidising </div> <div style="width: 33%; text-align: center;">  ☐ Gas under pressure </div> </div>			
Hazard Type			
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">☐ Gas</div> <div style="text-align: center;">☐ Vapour</div> <div style="text-align: center;">☒ Mist</div> <div style="text-align: center;">☐ Fume</div> <div style="text-align: center;">☐ Dust</div> <div style="text-align: center;">☒ Liquid</div> <div style="text-align: center;">☐ Solid</div> <div style="text-align: center;">☐ Other (State) _____</div> </div>			
Route of Exposure			
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">☐ Inhalation</div> <div style="text-align: center;">☒ Skin</div> <div style="text-align: center;">☒ Eyes</div> <div style="text-align: center;">☒ Ingestion</div> <div style="text-align: center;">☐ Other (State) _____</div> </div>			
Physical and Chemical Properties			
Colour:	See MSD Sheet below	Odour:	See MSD Sheet below
Melting Point:	See MSD Sheet below	Initial Boiling Point & Range:	See MSD Sheet below
Flash Point:	See MSD Sheet below	Upper/Lower Flammability or Exploive	See MSD Sheet below
Vapour Pressure:	See MSD Sheet below	Vapour Density:	See MSD Sheet below
Relative Density	See MSD Sheet below	Solubility:	See MSD Sheet below
Auto-ignition Temperature:	See MSD Sheet below	Viscosity:	See MSD Sheet below

State the Risks to Health from Identified Hazards			
Skin: Prolonged contact may cause redness, irritation and dry skin. Eyes: Irritation to eyes Ingestion: May cause discomfort if swallowed.			
Control Measures: (for example extraction, ventilation, training, supervision).			
Skin: Wear protective gloves when checking or adding lubricant. Eyes: Wear protective eye wear when adding lubricant. Ingestion: Wash hands thoroughly before eating or drinking. Environmental Precautions: Contain spillage with sand or earth. Avoid the spillage or runoff entering drains, sewers or watercourses. The products are insoluble in water and will spread on the water surface.			
Is health surveillance or monitoring required? <div style="text-align: right;"> Yes ☐ No ☒ </div>			
Personal Protective Equipment (state type and standard)			
 ☐ Dust mask		 ☐ Visor	
 ☐ Respirator		 ☒ X Goggles	
 ☒ X Gloves		 ☐ Overalls	
 ☐ Footwear		 ☐ Other	
First Aid Measures			
Skin: Remove contaminated clothing immediately and wash skin with soap and water. Eyes: Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for a least 15 minutes. Get medical attention if symptoms occur after washing. Ingestion: Get medical attention if any discomfort continues. Do not induce vomiting.			
Storage			
Keep in closed, labelled containers as purchased. Directions on labels should be read and followed.			
Disposal of Substances & Contaminated Containers			
Hazardous Waste ☒ X Skip ☐ Return to Depot ☐ Return to Supplier ☐ Other ☐			
(If Other Please State):			

Is exposure adequately controlled?	Yes ☒ X No ☐			
Assessment Approval:				
Revision:	Name:	Position:	Date:	Review Date:
A	C Newman	HSQE & Operation Manager	18.06.2021	17.06.2022
B	C Newman	HSQE & Operation Manager	04.05.2022	03.05.2022



SAFETY DATA SHEET

Duplex CDX 15W-40

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	Duplex CDX 15W-40
Product number	7418
Internal identification	GS21423
REACH registration number	n/a Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Engine oil.
Uses advised against	Non specified unless otherwise stated within this MSDS

1.3. Details of the supplier of the safety data sheet

Supplier	Morris Lubricants Castle Foregate Shrewsbury SY1 2EL 08.45 - 17.00 GMT T: (+44)(0)1743 232200 F: (+44)(0)1743 353584 sds@morris-lubricants.co.uk
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1.4. Emergency telephone number

Emergency telephone	+44 (0)1743 232200 (08.45 - 17.00 hrs GMT)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards	Not Classified
Health hazards	Elicitation - EUH208
Environmental hazards	Not Classified

Classification (67/548/EEC or 1999/45/EC) Not Classified

2.2. Label elements

Hazard statements	EUH208 Contains Calcium long chain alkaryl sulphonate, Calcium long chain alkaryl sulphonate. May produce an allergic reaction.
Supplemental label information	EUH210 Safety data sheet available on request.

2.3. Other hazards

Duplex CDX 15W-40

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Distillates (petroleum) solvent-dewaxed heavy paraffinic		30-60%
CAS number: 64742-65-0	EC number: 265-169-7	REACH registration number: 01-2119471299-27-XXXX
A petroleum product. DMSO extract < 3 % weight (IP 346)		
Classification Not Classified	Classification (67/548/EEC or 1999/45/EC) -	
Base oil - Unspecified - Distillates (Petroleum), hydrotreated Heavy Paraffinic		10-30%
CAS number: 64742-54-7	EC number: 265-157-1	REACH registration number: 01-2119484627-25-XXXX
Classification Not Classified	Classification (67/548/EEC or 1999/45/EC) -	
Polyolefin polyamine succinimide polyol		1-5%
CAS number: —		
Classification Aquatic Chronic 4 - H413	Classification (67/548/EEC or 1999/45/EC) R53.	
Propylene Pentamer		<1%
CAS number: 15220-87-8		
Classification Asp. Tox. 1 - H304 Aquatic Chronic 2 - H411	Classification (67/548/EEC or 1999/45/EC) Xn;R65. Xi;R38. N;R51/53.	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention if any discomfort continues.
Inhalation	If spray/mist has been inhaled, proceed as follows. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
Ingestion	Get medical attention if any discomfort continues. Do not induce vomiting.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water.

Duplex CDX 15W-40

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

4.2. Most important symptoms and effects, both acute and delayed

General information If aspiration into the lungs is suspected, eg when vomiting, admit to hospital immediately.

Inhalation Upper respiratory irritation.

Ingestion May cause discomfort if swallowed. The product contains mineral oil, which if aspirated into the lungs through vomiting after ingestion, may result in chemical pneumonia.

Skin contact Prolonged contact may cause redness, irritation and dry skin.

Eye contact Irritation of eyes and mucous membranes.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Heat from fire could result in drums bursting

Hazardous combustion products Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m³. Oxides of carbon. Oxides of nitrogen. Fire may also create other unidentified organic gases some of which may be toxic.

5.3. Advice for firefighters

Protective actions during firefighting Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions For personal protection, see Section 8. In case of spills, beware of slippery floors and surfaces.

6.2. Environmental precautions

Environmental precautions Contain spillage with sand or earth. Avoid the spillage or runoff entering drains, sewers or watercourses. The product is insoluble in water and will spread on the water surface.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Contain spillage with sand or earth. Collect spillage for reclamation or disposal in sealed containers via a licensed waste contractor. Avoid water contacting spilled material or leaking containers. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. In case of spillage on water prevent the spread by use of suitable barrier equipment

6.4. Reference to other sections

Duplex CDX 15W-40

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Always remove oil with soap and water or skin cleaning agent, never use organic solvents. Do not use oil-contaminated clothing or shoes, and do not put rags moistened with oil into pockets.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place.

Storage class Miscellaneous hazardous material storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Distillates (petroleum) solvent-dewaxed heavy paraffinic

Long-term exposure limit (8-hour TWA): ACGIH 5 mg/m³

Short-term exposure limit (15-minute): ACGIH 10 mg/m³

Base oil - Unspecified - Distillates (Petroleum), hydrotreated Heavy Paraffinic

Long-term exposure limit (8-hour TWA): ACGIH 5 mg/m³

Short-term exposure limit (15-minute): ACGIH 10 mg/m³

Propylene Pentamer

Long-term exposure limit (8-hour TWA): WEL 4 mg/m³

ACGIH = American Conference of Governmental Industrial Hygienists.

WEL = Workplace Exposure Limit

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

Hand protection

The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

Other skin and body protection

Use barrier creams to prevent skin contact.

Hygiene measures

Use engineering controls to reduce air contamination to permissible exposure level. Wash promptly with soap and water if skin becomes contaminated.

Duplex CDX 15W-40

Respiratory protection	No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.
Thermal hazards	Not anticipated under normal conditions of use. The product is combustible if heated excessively and an ignition source is applied.
Environmental exposure controls	Do not allow product to contaminate land.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Amber.
Odour	Characteristic. Oil-like.
Odour threshold	Not known.
pH	Not applicable.
Melting point	-39°C Pour point
Initial boiling point and range	>320°C @ 101.3 kPa
Flash point	203°C PMCC (Pensky-Martens closed cup).
Evaporation rate	Not relevant.
Upper/lower flammability or explosive limits	Not known.
Other flammability	Product is not flammable but on excessive heating may become combustible.
Vapour pressure	<0.1 kPa @ 20°C
Vapour density	Not determined.
Relative density	0.883 @ 15.6°C
Solubility(ies)	Insoluble in water. Soluble in the following materials: Organic solvents.
Partition coefficient	Not determined. log Kow: > 7 The above figure is typical of mineral oil.
Auto-ignition temperature	No specific test data are available.
Decomposition Temperature	Not determined.
Viscosity	102.3 cSt @ 40°C
Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

9.2. Other information

Volatile organic compound	The product is a complex mixture, the majority of which would not be classed as a VOC. However it cannot be discounted that trace or low levels of VOC's may be present.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Duplex CDX 15W-40

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Unlikely to occur under normal conditions of use. Unlikely to occur.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Oxides of carbon. Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m³.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Not expected to be highly toxic based on information of ingredients. Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Not expected to be highly toxic based on information of ingredients. Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Not determined. The product is unlikely to present any significant inhalation hazard at ambient temperatures and under normal conditions of use.

Serious eye damage/irritation

Serious eye damage/irritation May cause mild, short lasting discomfort to eyes.

Respiratory sensitisation

Respiratory sensitisation No evidence to suggest the product will be a respiratory sensitizer. Repeated exposure to oil mists may cause respiratory damage.

Skin sensitisation

Skin sensitisation Not expected to be a skin sensitizer based on information on components.

Carcinogenicity

Carcinogenicity This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP346 test

Reproductive toxicity

Reproductive toxicity - fertility No data available to suggest the product will cause reproductive toxicity.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Duplex CDX 15W-40

Aspiration hazard

Aspiration hazard

Kinematic viscosity > 20.5 mm²/s. The product viscosity is greater than the upper limit assigned for classification. The product contains mineral oil. If aspirated into the lungs e.g. through vomiting after ingestion admit to hospital immediately.

General information

This product has low toxicity. Only large quantities are likely to have adverse effects on human health.

Inhalation

Unlikely to be hazardous by inhalation because of the low vapour pressure of the product at ambient temperature.

Ingestion

No harmful effects expected from quantities likely to be ingested by accident.

Skin contact

Skin irritation should not occur when used as recommended. Repeated exposure may cause skin dryness or cracking.

Eye contact

May cause temporary eye irritation.

Acute and chronic health hazards

Prolonged or repeated contact with used oil may cause serious skin diseases, such as dermatitis and skin cancer.

Duplex CDX 15W-40

SECTION 12: Ecological Information

Ecotoxicity Based on available data the classification criteria are not met. Not regarded as dangerous for the environment.

12.1. Toxicity

Toxicity Based on available data the classification criteria are not met. Not considered toxic to fish.

Acute toxicity - aquatic invertebrates Based on available data the classification criteria are not met.

12.2. Persistence and degradability

Persistence and degradability The product contains mineral oil which has limited biodegradability in CEC test methods but will biodegrade slowly in aerobic water and sediments and is considered ultimately biodegradable. The product is not readily biodegradable.

Stability (hydrolysis) The product is based on highly refined mineral oils that are considered stable to hydrolysis.

Biodegradation The product is not considered readily biodegradeable, albeit the major constituents are expected to ultimately biodegrade.

Biological oxygen demand Not determined.

Chemical oxygen demand Not determined.

12.3. Bioaccumulative potential

Bioaccumulative potential Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

Partition coefficient Not determined. log Kow: > 7 The above figure is typical of mineral oil.

12.4. Mobility in soil

Mobility The product is non-volatile. The product is insoluble in water and will spread on the water surface.

Henry's law constant Not determined.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Waste class European waste catalogue (EWC) number = 13 02 08*

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

Duplex CDX 15W-40

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78
and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Health and Safety at Work etc. Act 1974 (as amended).
The Pollution Prevention and Control Act 1999.
Special Waste regulations 1996.
Control of Pollution (Oil Storage) (England) Regulations 2001
The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).

EU legislation

Dangerous Preparations Directive 1999/45/EC.
Dangerous Substances Directive 67/548/EEC.
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Guidance

Workplace Exposure Limits EH40.
Safety Data Sheets for Substances and Preparations.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

All the ingredients are listed or exempt.

Duplex CDX 15W-40

Australia - AICS

All the ingredients are listed or exempt.

Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

New Zealand - NZIOC

All the ingredients are listed or exempt.

SECTION 16: Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Issued by	Regulatory Affairs
Revision date	19/10/2015
Revision	6
Supersedes date	22/05/2015
SDS number	21423
Hazard statements in full	H304 May be fatal if swallowed and enters airways. H411 Toxic to aquatic life with long lasting effects. H413 May cause long lasting harmful effects to aquatic life. EUH208 Contains Calcium long chain alkaryl sulphonate, Calcium long chain alkaryl sulphonate. May produce an allergic reaction.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.



SAFETY DATA SHEET

EP80W-90

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name EP80W-90

Product number 7040

Internal identification GHS21453

REACH registration number n/a Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Gear oil. Transmission oil.

Uses advised against Non specified unless otherwise stated within this MSDS

1.3. Details of the supplier of the safety data sheet

Supplier Morris Lubricants
Castle Foregate
Shrewsbury
SY1 2EL

08.45 - 17.00 GMT
T: (+44)(0)1743 232200
F: (+44)(0)1743 353584
sds@morris-lubricants.co.uk

1.4. Emergency telephone number

Emergency telephone +44 (0)1743 232200 (08.45 - 17.00 hrs GMT)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Not Classified

Health hazards Not Classified

Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) Not Classified

2.2. Label elements

Hazard statements NC Not Classified

Supplemental label information EUH210 Safety data sheet available on request.

2.3. Other hazards

EP80W-90

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Base oil - Unspecified - Distillates (Petroleum), hydrotreated Heavy Paraffinic			60-100%
CAS number: 64742-54-7	EC number: 265-157-1	REACH registration number: 01-2119484627-25-XXXX	

Classification	Classification (67/548/EEC or 1999/45/EC)
Not Classified	-

Residual oils (petroleum), hydrotreated		10-30%
CAS number: 64742-70-7	REACH registration number: 01-2119480472-38-XXXX	
A petroleum product. DMSO extract < 3 % weight (IP 346)		

Classification	Classification (67/548/EEC or 1999/45/EC)
Not Classified	-

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments If REACH registration numbers do not appear the substance is either exempt from registration, does not meet the minimum volume threshold for registration, the registration date has not yet come due or this information is proprietary.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention if any discomfort continues.
Inhalation	If spray/mist has been inhaled, proceed as follows. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
Ingestion	Get medical attention if any discomfort continues. Do not induce vomiting.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

4.2. Most important symptoms and effects, both acute and delayed

General information	If aspiration into the lungs is suspected, eg when vomiting, admit to hospital immediately.
Inhalation	Upper respiratory irritation.
Ingestion	May cause discomfort if swallowed. The product contains mineral oil, which if aspirated into the lungs through vomiting after ingestion, may result in chemical pneumonia.
Skin contact	Prolonged contact may cause redness, irritation and dry skin.
Eye contact	Irritation of eyes and mucous membranes.

4.3. Indication of any immediate medical attention and special treatment needed

EP80W-90

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Heat from fire could result in drums bursting

Hazardous combustion products Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m³. Oxides of carbon. Oxides of nitrogen. Fire may also create other unidentified organic gases some of which may be toxic.

5.3. Advice for firefighters

Protective actions during firefighting Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions For personal protection, see Section 8. In case of spills, beware of slippery floors and surfaces.

6.2. Environmental precautions

Environmental precautions Contain spillage with sand or earth. Avoid the spillage or runoff entering drains, sewers or watercourses. The product is insoluble in water and will spread on the water surface.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Contain spillage with sand or earth. Collect spillage for reclamation or disposal in sealed containers via a licensed waste contractor. Avoid water contacting spilled material or leaking containers. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. In case of spillage on water prevent the spread by use of suitable barrier equipment

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Always remove oil with soap and water or skin cleaning agent, never use organic solvents. Do not use oil-contaminated clothing or shoes, and do not put rags moistened with oil into pockets.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place.

Storage class Miscellaneous hazardous material storage.

7.3. Specific end use(s)

EP80W-90

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Base oil - Unspecified - Distillates (Petroleum), hydrotreated Heavy Paraffinic

Long-term exposure limit (8-hour TWA): ACGIH 5 mg/m³

Short-term exposure limit (15-minute): ACGIH 10 mg/m³

Residual oils (petroleum), hydrotreated

Long-term exposure limit (8-hour TWA): ACGIH 5 mg/m³

Short-term exposure limit (15-minute): ACGIH 10 mg/m³

ACGIH = American Conference of Governmental Industrial Hygienists.

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

Hand protection

The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

Other skin and body protection

Use barrier creams to prevent skin contact.

Hygiene measures

Use engineering controls to reduce air contamination to permissible exposure level. Wash promptly with soap and water if skin becomes contaminated.

Respiratory protection

No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

Thermal hazards

Not anticipated under normal conditions of use. The product is combustible if heated excessively and an ignition source is applied.

Environmental exposure controls

Do not allow product to contaminate land.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Amber.
Odour	Characteristic. Oil-like.
Odour threshold	Not known.
pH	Not applicable.

EP80W-90

Melting point	-30°C Pour point
Initial boiling point and range	>320°C @ 101.3 kPa
Flash point	181°C PMCC (Pensky-Martens closed cup).
Evaporation rate	Not relevant.
Upper/lower flammability or explosive limits	Not known.
Other flammability	Product is not flammable but on excessive heating may become combustible.
Vapour pressure	<0.1 kPa @ 20°C
Vapour density	Not determined.
Relative density	0.889 @ 15.6°C
Solubility(ies)	Insoluble in water. Soluble in the following materials: Organic solvents.
Partition coefficient	Not determined. log Kow: > 7 The above figure is typical of mineral oil.
Auto-ignition temperature	No specific test data are available.
Decomposition Temperature	Not determined.
Viscosity	128.9 cSt @ 40°C
Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

9.2. Other information

Volatile organic compound	The product is a complex mixture, the majority of which would not be classed as a VOC. However it cannot be discounted that trace or low levels of VOC's may be present.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Unlikely to occur under normal conditions of use. Unlikely to occur.
---	--

10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition.
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10.5. Incompatible materials

Materials to avoid	Strong oxidising agents.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Oxides of carbon. Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m ³ .
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EP80W-90

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Not expected to be highly toxic based on information of ingredients. Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Not expected to be highly toxic based on information of ingredients. Based on available data the classification criteria are not met.

ATE dermal (mg/kg) 1,000,000.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Not determined. The product is unlikely to present any significant inhalation hazard at ambient temperatures and under normal conditions of use.

Serious eye damage/irritation

Serious eye damage/irritation May cause mild, short lasting discomfort to eyes.

Respiratory sensitisation

Respiratory sensitisation No evidence to suggest the product will be a respiratory sensitiser. Repeated exposure to oil mists may cause respiratory damage.

Skin sensitisation

Skin sensitisation Not expected to be a skin sensitizer based on information on components.

Carcinogenicity

Carcinogenicity This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP346 test

Reproductive toxicity

Reproductive toxicity - fertility No data available to suggest the product will cause reproductive toxicity.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Kinematic viscosity > 20.5 mm²/s. The product viscosity is greater than the upper limit assigned for classification. The product contains mineral oil. If aspirated into the lungs e.g. through vomiting after ingestion admit to hospital immediately.

General information

This product has low toxicity. Only large quantities are likely to have adverse effects on human health.

Inhalation

Unlikely to be hazardous by inhalation because of the low vapour pressure of the product at ambient temperature.

Ingestion

No harmful effects expected from quantities likely to be ingested by accident.

Skin contact

Skin irritation should not occur when used as recommended. Repeated exposure may cause skin dryness or cracking.

Eye contact

May cause temporary eye irritation.

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Acute and chronic health hazards

Prolonged or repeated contact with used oil may cause serious skin diseases, such as dermatitis and skin cancer.

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SECTION 12: Ecological Information

Ecotoxicity Based on available data the classification criteria are not met. Not regarded as dangerous for the environment.

12.1. Toxicity

Toxicity Based on available data the classification criteria are not met. Not considered toxic to fish.

Acute toxicity - aquatic invertebrates Based on available data the classification criteria are not met.

12.2. Persistence and degradability

Persistence and degradability The product contains mineral oil which has limited biodegradability in CEC test methods but will biodegrade slowly in aerobic water and sediments and is considered ultimately biodegradable. The product is not readily biodegradable.

Stability (hydrolysis) The product is based on highly refined mineral oils that are considered stable to hydrolysis.

Biodegradation The product is not considered readily biodegradeable, albeit the major constituents are expected to ultimately biodegrade.

Biological oxygen demand Not determined.

Chemical oxygen demand Not determined.

12.3. Bioaccumulative potential

Bioaccumulative potential Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

Partition coefficient Not determined. log Kow: > 7 The above figure is typical of mineral oil.

12.4. Mobility in soil

Mobility The product is non-volatile. The product is insoluble in water and will spread on the water surface.

Henry's law constant Not determined.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Waste class European waste catalogue (EWC) number = 13 02 08*

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

EP80W-90

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78
and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Health and Safety at Work etc. Act 1974 (as amended).
The Pollution Prevention and Control Act 1999.
Special Waste regulations 1996.
Control of Pollution (Oil Storage) (England) Regulations 2001
The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).

EU legislation

Dangerous Preparations Directive 1999/45/EC.
Dangerous Substances Directive 67/548/EEC.
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Guidance

Workplace Exposure Limits EH40.
Safety Data Sheets for Substances and Preparations.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

All the ingredients are listed or exempt.

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Australia - AICS

All the ingredients are listed or exempt.

Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

New Zealand - NZIOC

All the ingredients are listed or exempt.

SECTION 16: Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Issued by	Regulatory Affairs
Revision date	19/10/2015
Revision	6
Supersedes date	25/06/2015
SDS number	21453

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.



SAFETY DATA SHEET

K42EP

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name K42EP
Product number 7942
Internal identification GHS21808

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Lubricating grease.

1.3. Details of the supplier of the safety data sheet

Supplier Morris Lubricants
Castle Foregate
Shrewsbury
SY1 2EL

08.45 - 17.00 GMT
T: (+44)(0)1743 232200
F: (+44)(0)1743 353584
sds@morris-lubricants.co.uk

1.4. Emergency telephone number

Emergency telephone +44 (0)1743 232200 (08.45 - 17.00 hrs GMT)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Not Classified
Health hazards Not Classified
Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) -

2.2. Label elements

Hazard statements NC Not Classified

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

K42EP

Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Pr)esters, Zinc salts			1-5%
CAS number: —	EC number: 272-723-1	REACH registration number: 01-2119493633-31	
Classification		Classification (67/548/EEC or 1999/45/EC)	
Skin Irrit. 2 - H315		Xi;R36/38. N;R51/53.	
Eye Irrit. 2 - H319			
Aquatic Chronic 2 - H411			

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention if any discomfort continues.
Ingestion	Do not induce vomiting. Get medical attention if any discomfort continues.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

4.2. Most important symptoms and effects, both acute and delayed

4.3. Indication of any immediate medical attention and special treatment needed

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog.

5.2. Special hazards arising from the substance or mixture

Specific hazards Toxic gases or vapours. Heat from fire could result in drums bursting

5.3. Advice for firefighters

Protective actions during firefighting Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions For personal protection, see Section 8. In case of spills, beware of slippery floors and surfaces.

6.2. Environmental precautions

Environmental precautions Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Collect spillage for reclamation or disposal in sealed containers via a licensed waste contractor. Avoid water contacting spilled material or leaking containers.

K42EP

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes. Always remove oil with soap and water or skin cleaning agent, never use organic solvents. Do not use oil-contaminated clothing or shoes, and do not put rags moistened with oil into pockets.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place.

Storage class Miscellaneous hazardous material storage.

7.3. Specific end use(s)

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Protective equipment



Eye/face protection Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

Hand protection It is recommended that gloves are made of the following material: Polyvinyl chloride (PVC).

Other skin and body protection Use barrier creams to prevent skin contact.

Hygiene measures Wash promptly with soap and water if skin becomes contaminated.

Respiratory protection No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Grease.
Colour	Amber. to Brown.
Odour	Odourless.
Melting point	200°C
Flash point	>200°C PMCC (Pensky-Martens closed cup).
Relative density	0.88 @ 15°C
Solubility(ies)	Insoluble in water.
Auto-ignition temperature	>200°C

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

K42EP

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

General information This product has low toxicity. Only large quantities are likely to have adverse effects on human health.

Inhalation Unlikely to be hazardous by inhalation because of the low vapour pressure of the product at ambient temperature.

Ingestion No harmful effects expected from quantities likely to be ingested by accident.

Skin contact Skin irritation should not occur when used as recommended. Repeated exposure may cause skin dryness or cracking.

Eye contact May cause temporary eye irritation.

SECTION 12: Ecological Information

12.1. Toxicity

12.2. Persistence and degradability

Persistence and degradability The product is not readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

12.4. Mobility in soil

Mobility The product is non-volatile. The product contains substances which are insoluble in water and which sediment in water systems.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Waste class European Waste Catalogue (EWC) Code: 20 01 26* (greases)

K42EP**SECTION 14: Transport information**

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number**14.2. UN proper shipping name****14.3. Transport hazard class(es)****14.4. Packing group****14.5. Environmental hazards****14.6. Special precautions for user****14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code****SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

National regulations Health and Safety at Work etc. Act 1974 (as amended).
The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).

EU legislation Dangerous Preparations Directive 1999/45/EC.
Dangerous Substances Directive 67/548/EEC.

Guidance Workplace Exposure Limits EH40.
Safety Data Sheets for Substances and Preparations.

15.2. Chemical safety assessment**SECTION 16: Other information**

Revision comments NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date 10/11/2015

Revision 1

SDS number 21808

Hazard statements in full H315 Causes skin irritation.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.



SAFETY DATA SHEET

Liquimatic HV 46

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name Liquimatic HV 46

Product number 7062

Internal identification GHS21466

REACH registration number n/a Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Transmission and Hydraulic oil

Uses advised against Non specified unless otherwise stated within this MSDS

1.3. Details of the supplier of the safety data sheet

Supplier Morris Lubricants
 Castle Foregate
 Shrewsbury
 SY1 2EL

 08.45 - 17.00 GMT
 T: (+44)(0)1743 232200
 F: (+44)(0)1743 353584
 sds@morris-lubricants.co.uk

1.4. Emergency telephone number

Emergency telephone +44(0)1743 232200 (08.45 - 17.00 GMT)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Not Classified

Health hazards Not Classified

Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) Not Classified

2.2. Label elements

Hazard statements NC Not Classified

Supplemental label information EUH210 Safety data sheet available on request.

2.3. Other hazards

Liquimatic HV 46

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Distillates,hydrotreated heavy paraffinic			30-60%
CAS number: 64742-54-7	EC number: 265-157-1	REACH registration number: 01-2119484627-25-0014	
Classification Not Classified	Classification (67/548/EEC or 1999/45/EC) -		
Distillates,hydrotreated heavy paraffinic			30-60%
CAS number: 64742-54-7	EC number: 265-157-1	REACH registration number: 01-2119484627-25-0014	
Classification Asp. Tox. 1 - H304	Classification (67/548/EEC or 1999/45/EC) -		
solvent neutral oils			1-5%
CAS number: —			
Classification Asp. Tox. 1 - H304	Classification (67/548/EEC or 1999/45/EC) -		

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments If REACH registration numbers do not appear the substance is either exempt from registration, does not meet the minimum volume threshold for registration, the registration date has not yet come due or this information is proprietary.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention if any discomfort continues.
Inhalation	If spray/mist has been inhaled, proceed as follows. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
Ingestion	Get medical attention if any discomfort continues. Do not induce vomiting.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

4.2. Most important symptoms and effects, both acute and delayed

General information	If aspiration into the lungs is suspected, eg when vomiting, admit to hospital immediately.
Inhalation	Upper respiratory irritation.
Ingestion	May cause discomfort if swallowed. The product contains mineral oil, which if aspirated into the lungs through vomiting after ingestion, may result in chemical pneumonia.

Liquimatic HV 46

Skin contact Prolonged contact may cause redness, irritation and dry skin.

Eye contact Irritation of eyes and mucous membranes.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Heat from fire could result in drums bursting

Hazardous combustion products Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m³. Oxides of carbon. Oxides of nitrogen. Fire may also create other unidentified organic gases some of which may be toxic.

5.3. Advice for firefighters

Protective actions during firefighting Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions For personal protection, see Section 8. In case of spills, beware of slippery floors and surfaces.

6.2. Environmental precautions

Environmental precautions Contain spillage with sand or earth. Avoid the spillage or runoff entering drains, sewers or watercourses. The product is insoluble in water and will spread on the water surface.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Contain spillage with sand or earth. Collect spillage for reclamation or disposal in sealed containers via a licensed waste contractor. Avoid water contacting spilled material or leaking containers. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. In case of spillage on water prevent the spread by use of suitable barrier equipment

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Always remove oil with soap and water or skin cleaning agent, never use organic solvents. Do not use oil-contaminated clothing or shoes, and do not put rags moistened with oil into pockets.

7.2. Conditions for safe storage, including any incompatibilities

Liquimatic HV 46

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place.

Storage class Miscellaneous hazardous material storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Distillates,hydrotreated heavy paraffinic

Long-term exposure limit (8-hour TWA): ACGIH 5 mg/m³

Short-term exposure limit (15-minute): ACGIH 10 mg/m³

Distillates,hydrotreated heavy paraffinic

Long-term exposure limit (8-hour TWA): ACGIH 5

Short-term exposure limit (15-minute): ACGIH 10 mg/m³

Highly refined mineral oil (C15 - C50)

Long-term exposure limit (8-hour TWA): 5 mg/m³

ACGIH = American Conference of Governmental Industrial Hygienists.

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

Hand protection

The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

Other skin and body protection

Use barrier creams to prevent skin contact.

Hygiene measures

Use engineering controls to reduce air contamination to permissible exposure level. Wash promptly with soap and water if skin becomes contaminated.

Respiratory protection

No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

Thermal hazards

Not anticipated under normal conditions of use. The product is combustible if heated excessively and an ignition source is applied.

Environmental exposure controls

Do not allow product to contaminate land.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance Liquid.

Liquimatic HV 46

Colour	Blue.
Odour	Characteristic. Oil-like.
Odour threshold	Not known.
pH	Not applicable.
Melting point	-45°C Pour point
Initial boiling point and range	>320°C @ 101.3 kPa
Flash point	205°C PMCC (Pensky-Martens closed cup).
Evaporation rate	Not relevant.
Upper/lower flammability or explosive limits	Not known.
Other flammability	Product is not flammable but on excessive heating may become combustible.
Vapour pressure	<0.1 kPa @ 20°C
Vapour density	Not determined.
Relative density	0.877 @ 15.6°C
Solubility(ies)	Insoluble in water. Soluble in the following materials: Organic solvents.
Partition coefficient	Not determined. log Kow: > 7 This figure is typical of mineral oil.
Auto-ignition temperature	No specific test data are available.
Decomposition Temperature	Not determined.
Viscosity	48.2 @ 40°C
Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

9.2. Other information

Volatile organic compound	The product is a complex mixture, the majority of which would not be classed as a VOC. However it cannot be discounted that trace or low levels of VOC's may be present.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Unlikely to occur under normal conditions of use. Unlikely to occur.
------------------------------------	--

10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition.
---------------------	---

Liquimatic HV 46

10.5. Incompatible materials

Materials to avoid Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Oxides of carbon. Oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Not expected to be highly toxic based on information of ingredients. Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Not expected to be highly toxic based on information of ingredients. Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Not determined. The product is unlikely to present any significant inhalation hazard at ambient temperatures and under normal conditions of use.

Serious eye damage/irritation

Serious eye damage/irritation May cause mild, short lasting discomfort to eyes.

Respiratory sensitisation

Respiratory sensitisation No evidence to suggest the product will be a respiratory sensitiser. Repeated exposure to oil mists may cause respiratory damage.

Skin sensitisation

Skin sensitisation Not expected to be a skin sensitizer based on information on components.

Carcinogenicity

Carcinogenicity This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP346 test

Reproductive toxicity

Reproductive toxicity - fertility No data available to suggest the product will cause reproductive toxicity.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Kinematic viscosity > 20.5 mm²/s. The product viscosity is greater than the upper limit assigned for classification. Although not classified, the product contains mineral oil. If aspirated into the lungs e.g. through vomiting after ingestion, admit to hospital immediately.

General information

This product has low toxicity. Only large quantities are likely to have adverse effects on human health.

Inhalation

Unlikely to be hazardous by inhalation because of the low vapour pressure of the product at ambient temperature.

Liquimatic HV 46

Ingestion	No harmful effects expected from quantities likely to be ingested by accident.
Skin contact	Skin irritation should not occur when used as recommended. Repeated exposure may cause skin dryness or cracking.
Eye contact	May cause temporary eye irritation.
Acute and chronic health hazards	Prolonged or repeated contact with used oil may cause serious skin diseases, such as dermatitis and skin cancer.

Liquimatic HV 46

SECTION 12: Ecological Information

Ecotoxicity Based on available data the classification criteria are not met. Not regarded as dangerous for the environment.

12.1. Toxicity

Toxicity Based on available data the classification criteria are not met. Not considered toxic to fish.

Acute toxicity - aquatic invertebrates Based on available data the classification criteria are not met.

12.2. Persistence and degradability

Persistence and degradability The product contains mineral oil which has limited biodegradability in CEC test methods but will biodegrade slowly in aerobic water and sediments and is considered ultimately biodegradable.

Stability (hydrolysis) The product is based on highly refined mineral oils that are considered stable to hydrolysis.

Biodegradation The product is not considered readily biodegradeable, albeit the major constituents are expected to ultimately biodegrade.

Biological oxygen demand Not determined.

Chemical oxygen demand Not determined.

12.3. Bioaccumulative potential

Bioaccumulative potential Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

Partition coefficient Not determined. log Kow: > 7 This figure is typical of mineral oil.

12.4. Mobility in soil

Mobility The product is non-volatile. The product is insoluble in water and will spread on the water surface.

Henry's law constant Not determined.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information This material and its container must be disposed of as hazardous waste. Dispose of waste via a licensed waste disposal contractor.

Disposal methods Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Dispose of waste via a licensed waste disposal contractor.

Waste class European Waste Catalogue (EWC) = 13 01 13* (other hydraulic oils)

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

Liquimatic HV 46

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78
and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Health and Safety at Work etc. Act 1974 (as amended).

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).

Control of Substances Hazardous to Health Regulations 2002 (as amended).

The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].

EU legislation

Dangerous Preparations Directive 1999/45/EC.

Dangerous Substances Directive 67/548/EEC.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Guidance

Workplace Exposure Limits EH40.

Safety Data Sheets for Substances and Preparations.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

All the ingredients are listed or exempt.

Liquimatic HV 46

Australia - AICS

All the ingredients are listed or exempt.

Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

New Zealand - NZIOC

All the ingredients are listed or exempt.

SECTION 16: Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Issued by	Regulatory Affairs
Revision date	27/11/2015
Revision	4
Supersedes date	13/10/2015
SDS number	21466
Hazard statements in full	H304 May be fatal if swallowed and enters airways.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

	<h1 style="margin: 0;">COSHH Risk Assessment for No: Prime a Pump</h1>	COSHH NO: 006	
Describe the activity or work process. <i>(Include how long and how often this is carried out and the quantity of substance used)</i>	Used as a concrete hoses primer and pumped ahead of concrete to line a concrete hose/pipe system.		
Location of process being carried out?	On construction sites.		
Identify the persons at risk:	Employees ☒ (including trainees)	Contractors ☐ Public ☐ (including students)	
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet for this substance should be attached to this assessment)</i>	Prime a Pump		
Classification (state the category of danger)			
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%; text-align: center;">  ☐ Acute toxicity Cat 1-3 </div> <div style="width: 33%; text-align: center;">  ☐ Serious health hazard </div> <div style="width: 33%; text-align: center;">  ☐ Aquatic Environment </div> <div style="width: 33%; text-align: center;">  ☒ Acute toxicity (cat 4) </div> <div style="width: 33%; text-align: center;">  ☐ Flammable </div> <div style="width: 33%; text-align: center;">  ☐ Explosive </div> <div style="width: 33%; text-align: center;">  ☐ Corrosive </div> <div style="width: 33%; text-align: center;">  ☐ Oxidising </div> <div style="width: 33%; text-align: center;">  ☐ Gas under pressure </div> </div>			
Hazard Type			
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div>☐</div> <div>☐</div> <div>☐</div> <div>☐</div> <div>☒</div> <div>☐</div> <div>☐</div> <div>☐</div> </div> <div style="display: flex; justify-content: space-around; font-size: small;"> Gas Vapour Mist Fume Dust Liquid Solid Other (State) </div>			
Route of Exposure			
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div>☐</div> <div>☐</div> <div>☒</div> <div>☐</div> <div>☐</div> </div> <div style="display: flex; justify-content: space-around; font-size: small;"> Inhalation Skin Eyes Ingestion Other (State) </div>			
Physical and Chemical Properties			
Colour:	White to gry powder	Odour:	N/A
pH:	12 at 106 g/l at 25°C [77°F]	Initial Boiling Point & Range:	N/A
Flash Point:	N/A	Upper/Lower Flammability or Exploive	N/A
Vapour Pressure:	N/A	Vapour Density:	N/A
Relative Density	N/A	Solubility:	Partially soluble
Auto-ignition Temperature:	N/A	Viscosity:	N/A

State the Risks to Health from Identified Hazards

Eyes: Causes serious eye irritation.

Control Measures: (for example extraction, ventilation, training, supervision).

Eyes: Wear safety glasses when mixing substance

Is health surveillance or monitoring required?

Yes ☐ No ☐

Personal Protective Equipment (state type and standard)

 ☒ Dust mask	If working in a inclosed space.	 ☐ Visor	
 ☐ Respirator		 ☐ Goggles	
 ☒ Gloves		 ☐ Overalls	
 ☐ Footwear		 ☐ Other	

First Aid Measures

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present. If eye irritation persists: Get medical advice/attention.

Storage

Keep in closed, labelled containers as purchased. Directions on labels should be read and followed.

Disposal of Substances & Contaminated Containers

Hazardous Waste ☐ Skip ☒ Return to Depot ☐ Return to Supplier ☐ Other ☐

(If Other Please State):

Is exposure adequately controlled?

Yes ☒ No ☐

Assessment Approval:

Revision:	Name:	Position:	Date:	Review Date:
A	C Newman	HSQE & Operation Manager	18.06.2021	17.06.2022
B	C Newman	HSQE & Operation Manager	04.05.2022	03.05.2023



SAFETY DATA SHEET

Section 1: Identification of the substance/preparation and of the company/undertaking

1.1:	Product name	Prime-a-Pump
	Chemical Name	Mixture
	Synonyms	Mixture
	Formula	Mixture
	CAS Number	Not applicable
	EINECS Number	Not applicable
1.2:	Relevant Identified uses of the substance and uses advised against.	
	Product uses	Concrete pump primer
1.3:	Details of Supplier	Prime-a-Pump Ltd PO Box 4759 Maidenhead SL60 1HT UK
	Contact:	Dan Williamson
	Email	info@primeapump.co.uk
	Telephone	+44 (0)330 024 4662
1.4: Emergency Phone (24hrs)	Telephone	+44 (0)330 024 4662

Section 2: Hazard Identification

2.1 Classification of substances and mixtures

Physical	Not Classified
Health	Eye Irritation (category 2A) H319
Environmental	Not Classified

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2: Label Elements

Pictogram



H319

Causes serious eye irritation.

Precautionary statement(s)

P264

Wash skin thoroughly after handling.

P280

Wear eye protection/ face protection.



P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do.
Continue rinsing.

P337 + P313

If eye irritation persists: Get medical advice/attention.

Labelling according to regulation (EC) No 1272/2008

2.3 Other Hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

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Section 3: Composition

3.1 Substances

Sodium Carbonate	00497-19-8	Eye Irritation (category 2A) H319	30-60%
Polymer	Commercially Confidential	Not Classified	30-60%
Solid Lubricant	Commercially Confidential	Not Classified	5-30%

REACH registration notes

Substances contained in this product that are not classified as hazardous have been/will be registered for REACH at the appropriate time.

.....

Section 4: First aid measures

4.1 Description of First Aid Measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.
Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.
Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person.
Rinse mouth with water.
Consult a physician.

Revision Date: 25 September 2018



4.2. Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3. Indication of any immediate medical attention and special treatment needed

No data available.

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Section 5: Fire Fighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media	Use water spray or powder.
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5.2 Special hazards arising from substance or mixture

Specific Hazards	Carbon oxides and sodium oxides.
Hazardous combustion products	

5.3 Advice to Fire fighters

Special protective equipment for fire fighters	Wear self-contained breathing apparatus for firefighting if necessary.
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Section 6: Accidental Release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust. For personal protection, see section 8.
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6.2. Environmental precautions

Environmental precautions	Do not let product enter drains.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Pick up and arrange disposal without creating dust. Damp down sweep up and shovel. Keep in suitable, closed containers for disposal.
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6.4. Reference to other sections

Reference to other sections	For disposal see section 13.
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Section 7: Handling and Storage

7.1. Precautions for safe handling

Usage precautions	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions, see section 2.2.
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7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	Keep container tightly closed in a dry and well-ventilated place.
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7.3. Specific end use(s)

Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.
---------------------	---

Section 8: Exposure controls/personal protection

8.1. Control parameters

Ingredient comments	Treat the mixture as a nuisance dust.
---------------------	---------------------------------------

8.2. Exposure controls

Wear gloves, protective glasses and normal work wear.	
Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Eye/face protection	Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Hand protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Wash and dry hands. Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min
Other skin and body protection	Wear dust proof coveralls meeting type 5.
Hygiene measures	Wash thoroughly after contact.
Respiratory protection	Use EU P3 mask or respirator cartridges.



Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance Colour	White to grey powder
pH	12 at 106 g/l at 25 °C (77 °F)
Melting point	Not available
Initial boiling point and range	Not available
Vapour pressure	Not available
Relative density	Not available
Solubility	Partially soluble
Partition coefficient	Not available

9.2 Other Information

Other Information	No Data available
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Section 10: Stability and Reactivity

10.1 Reactivity

Reactivity	No Data available
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10.2 Chemical Stability

Stability	Material is hygroscopic
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10.3 Possibility of hazardous reactions

Possibility of hazardous reactions	None identified
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10.4 Conditions to avoid

Conditions to avoid	Exposure to moisture
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10.5 Incompatible materials

Incompatible materials	Strong acids
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10.6. Hazardous decomposition products

Hazardous decomposition products	No data available
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Section 11: Toxicological Information

11.1. Information on toxicological effects (Sodium Carbonate)

Inhalation	LC50 Inhalation - Rat - 2 h - 5,750 mg/l
Ingestion	LD50 Oral - Rat - 4,090 mg/kg
Skin contact	Skin - Rabbit Result: Mild skin irritation - 24 h
Eye contact	Eyes - Rabbit Result: Eye irritation - 24 h

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC:

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP:

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.



Section 12: Ecotoxicity

12.1. Toxicity

Acute toxicity - fish

LC50 - *Lepomis macrochirus* (Bluegill) - 300 mg/l - 96 h

Acute toxicity - aquatic Invertebrates

No Data Available

EC50 - *Daphnia magna* (Water flea) - 265 mg/l - 48 h

No data available

Acute toxicity - aquatic plants

No data available

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4 Mobility in Soil:

Not determined

12.5 Results of PBT and vPvB assessment

Results of PBT and
vPvB assessment

PBT/vPvB assessment not available as chemical
safety assessment not required/not conducted

12.6: Other adverse effects.

Not determined



Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods	Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
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Section 14: Transport Information

General	Not classified as dangerous for transport.
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14.1 UN Number - Not required

14.2 Proper shipping name	No information required
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14.3 Transport Hazard class	No information required
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14.4 Packing group	No information
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14.5 Environmental Hazards	Not an environmentally hazardous product
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14.6 Special precautions for user	No information required
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14.7 Transport in bulk according to:	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
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Section 15: Regulatory Information

15.1: Safety health and environmental regulations/legislation specific to the substance or mixture

EU regulation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
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Section 16: Other Information

Hazard and precautionary statements H319

Causes serious eye irritation.

Precautionary statement(s)

P264	Wash skin thoroughly after handling.
P280	Wear eye protection / face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.

		COSHH Risk Assessment for No: Mould Oil		COSHH NO: 007			
Describe the activity or work process. <i>(Include how long and how often this is carried out and the quantity of substance used)</i>		To place on the concrete pump, holding drum and piling rig to stop concrete adhering to the plant.					
Location of process being carried out?		On construction sites.					
Identify the persons at risk:		Employees <i>(including trainees)</i> ☒	Contractors ☐	Public <i>(including students)</i> ☐			
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet for this substance should be attached to this assessment)</i>		Bostik Cementone Concrete Mould Oil					
Classification (state the category of danger)							
 ☐ Acute toxicity Cat 1-3	 ☐ Serious health hazard	 ☒ Aquatic Environment					
 ☒ Acute toxicity (cat 4)	 ☐ Flammable	 ☐ Explosive					
 ☐ Corrosive	 ☐ Oxidising	 ☐ Gas under pressure					
Hazard Type							
☐ Gas	☐ Vapour	☐ Mist	☐ Fume	☐ Dust	☒ Liquid	☐ Solid	☐ Other (State)
Route of Exposure							
☒ Inhalation	☒ Skin	☒ Eyes	☐ Ingestion	☐ Other	(State)		
Physical and Chemical Properties							
Colour:	Cream	Odour:	Light, paraffinic				
Melting Point:	N/A	Initial Boiling Point & Range:	100°C				
Flash Point:	> 100°C	Upper/Lower Flammability or Exploive	N/A				
Vapour Pressure:	N/A	Vapour Density:	N/A				
Relative Density	0.97	Solubility:	Miscible with water				
Auto-ignition Temperature:	N/A	Viscosity:	N/A				

State the Risks to Health from Identified Hazards			
Inhalation: Will causes irritation if swallowed. Skin: Causes skin irritation. Eyes: Causes eye irritation. Environmental: Toxic to aquatic life with long lasting effects.			
Control Measures: <i>(for example extraction, ventilation, training, supervision).</i>			
Inhalation: Use in a well ventilated area, if used in a confined space wear a respirator. Skin: Keep all exposed skin covered Eyes: Wear safety glasses when spraying the oil on to machinery or plant.			
Is health surveillance or monitoring required? <div style="text-align: right;"> Yes ☐ No ☒ </div>			
Personal Protective Equipment <i>(state type and standard)</i>			
 ☐ Dust mask		 ☐ Visor	
 ☐ Respirator		 ☒ X Goggles	
 ☒ X Gloves		 ☐ Overalls	
 ☐ Footwear		 ☐ Other	
First Aid Measures			
Inhalation: Remove victim immediately from source of exposure. Move the exposed person to fresh air at once. Get medical attention if any discomfort continues. Skin: Wash contaminated skin thoroughly, take off contaminated clothing and wash before re use. If skin irritation occurs: Get medical advice/attention. Eyes: Rinse the eye with water immediately. Continue to rinse for at least 15 minutes and get medical attention.			
Storage			
Keep in closed, labelled containers as purchased. Directions on labels should be read and followed.			
Disposal of Substances & Contaminated Containers			
Hazardous Waste ☒ X Skip ☐ Return to Depot ☐ Return to Supplier ☐ Other ☐			
(If Other Please State):			

Is exposure adequately controlled?	Yes ☒ X No ☐			
Assessment Approval:				
Revision:	Name:	Position:	Date:	Review Date:
A	C Newman	HSQE & Operation Manager	18.06.2021	17.06.2022
B	C Newman	HSQE & Operation Manager	04.05.2022	03.05.2023



SAFETY DATA SHEET

CEMENTONE CONCRETE MOULD OIL

According to Regulation (EC) No 1907/2006

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name CEMENTONE CONCRETE MOULD OIL
Product No. 365650, 365667

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Multipurpose oil.

1.3. Details of the supplier of the safety data sheet

Supplier BOSTIK LIMITED
COMMON ROAD
STAFFORD
STAFFORDSHIRE
ST16 3EH
+44 1785 272625
sds.uk@bostik.com

1.4. Emergency telephone number

+44 1785 272650 (24 Hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and Chemical Hazards	Not classified.
Human health	Skin Irrit. 2 - H315
Environment	Aquatic Chronic 2 - H411

Classification (1999/45/EEC)

Xi;R38. N;R51/53.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

2.2. Label elements

Label In Accordance With (EC) No. 1272/2008



Signal Word

Warning

Hazard Statements

H315	Causes skin irritation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P391	Collect spillage.
P402+404	Store in a dry place. Store in a closed container.
P502	Dispose of contents/container to hazardous or special waste collection point

CEMENTONE CONCRETE MOULD OIL

Supplementary Precautionary Statements

P264
P332+313
P362

Wash contaminated skin thoroughly after handling.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.

2.3. Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

PETROLEUM HYDROCARBONS (saturated olefinic and aromatics C9-C16) >99%		10-30%
CAS-No.: 64742-81-0	EC No.: 265-184-9	
Classification (EC 1272/2008)	Classification (67/548/EEC)	
Flam. Liq. 3 - H226	Xn;R65.	
Skin Irrit. 2 - H315	Xi;R38.	
Asp. Tox. 1 - H304	N;R51/53.	
Aquatic Chronic 2 - H411	R10.	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation

Remove victim immediately from source of exposure. Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

Ingestion

DO NOT induce vomiting. Get medical attention immediately.

Skin contact

Promptly flush contaminated skin with water. Promptly remove clothing if soaked through and flush the skin with water. Get medical attention if irritation persists after washing.

Eye contact

Rinse the eye with water immediately. Continue to rinse for at least 15 minutes and get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

4.3. Indication of any immediate medical attention and special treatment needed

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

5.2. Special hazards arising from the substance or mixture

Specific hazards

Fire or high temperatures create: Toxic gases/vapours/fumes of: Carbon dioxide (CO₂). Carbon monoxide (CO).

5.3. Advice for firefighters

Special Fire Fighting Procedures

Keep run-off water out of sewers and water sources. Dike for water control. If risk of water pollution occurs, notify appropriate authorities.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid skin and eye contact. Ensure adequate ventilation.

CEMENTONE CONCRETE MOULD OIL

6.2. Environmental precautions

Prevent entry into drains and water courses.

6.3. Methods and material for containment and cleaning up

Absorb in vermiculite, dry sand or earth and place into containers.

6.4. Reference to other sections

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid spilling, skin and eye contact. Persons susceptible to allergic reactions should not handle this product. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container.

Storage Class

Chemical storage.

7.3. Specific end use(s)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Ingredient Comments

WEL = Workplace Exposure Limits

8.2. Exposure controls

Protective equipment



Engineering measures

Provide adequate general and local exhaust ventilation.

Respiratory equipment

No specific recommendation made, but respiratory protection must be used if the general level exceeds the recommended occupational exposure limit.

Hand protection

Protective gloves should be used if there is a risk of direct contact or splash. Use protective gloves made of: Nitrile.

Eye protection

Wear splash-proof eye goggles to prevent any possibility of eye contact.

Other Protection

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact. Provide eyewash station.

Hygiene measures

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance

Emulsion.

Colour

Cream.

Odour

Light, paraffinic

Solubility

Miscible with water

CEMENTONE CONCRETE MOULD OIL

Initial boiling point and boiling range	100
(°C)	
Relative density	0.97
Flash point (°C)	> 100

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

10.2. Chemical stability

Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Avoid contact with strong oxidisers. Avoid contact with acids and alkalis.

10.5. Incompatible materials

10.6. Hazardous decomposition products

Fire or high temperatures create: Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Inhalation

Vapour may irritate respiratory system or lungs.

Ingestion

May cause discomfort if swallowed.

Skin contact

Liquid may irritate skin. May cause sensitisation by skin contact.

Eye contact

Irritating to eyes.

Medical Considerations

Skin disorders and allergies.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Dangerous for the environment: May cause long-term adverse effects in the aquatic environment.

12.1. Toxicity

12.2. Persistence and degradability

12.3. Bioaccumulative potential

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

SECTION 13: DISPOSAL CONSIDERATIONS

CEMENTONE CONCRETE MOULD OIL

General information

This material is classified as special waste as defined by Special Waste Regulations 1996 and must be disposed of by an authorised contractor

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN No. (ADR/RID/ADN)	3082
UN No. (IMDG)	3082
UN No. (ICAO)	3082

14.2. UN proper shipping name

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PETROLEUM HYDROCARBONS (saturated olefinic and aromatics C9-C16) >99%)
----------------------	---

14.3. Transport hazard class(es)

ADR/RID/ADN Class	9
ADR/RID/ADN Class	Class 9: Miscellaneous dangerous substances and articles.
ADR Label No.	9
IMDG Class	9
ICAO Class/Division	9
Transport Labels	



14.4. Packing group

ADR/RID/ADN Packing group	III
IMDG Packing group	III
ICAO Packing group	III

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant



14.6. Special precautions for user

EMS	F-A, S-F
Emergency Action Code	•3Z
Hazard No. (ADR)	90
Tunnel Restriction Code	(E)

CEMENTONE CONCRETE MOULD OIL

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Statutory Instruments

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716). Control of Substances Hazardous to Health.

Approved Code Of Practice

Safety Data Sheets for Substances and Preparations. Classification and Labelling of Substances and Preparations Dangerous for Supply.

Guidance Notes

Workplace Exposure Limits EH40. CHIP for everyone HSG(108).

EU Legislation

Dangerous Substance Directive 67/548/EEC. Dangerous Preparations Directive 1999/45/EC. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.

15.2. Chemical Safety Assessment

SECTION 16: OTHER INFORMATION

General information

This product should be used as directed by Bostik Ltd. For further information consult the product data sheet or contact Technical Services.

Information Sources

This safety data sheet was compiled using current safety information supplied by distributor of raw materials.

Revision Comments

NOTE: Lines within the margin indicate significant changes from the previous revision. This safety data sheet supersedes all previous issues and users are cautioned to ensure that it is current. Destroy all previous data sheets and if in doubt contact Bostik Limited.

Issued By

Approved LJ

Revision Date

February 2014

Revision

6

Date

September 2006

Risk Phrases In Full

R10

Flammable.

R65

Harmful: may cause lung damage if swallowed.

R38

Irritating to skin.

R51/53

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Hazard Statements In Full

H226

Flammable liquid and vapour.

H304

May be fatal if swallowed and enters airways.

H315

Causes skin irritation.

H411

Toxic to aquatic life with long lasting effects.

		COSHH Risk Assessment for No: Petrol		COSHH NO: 008			
Describe the activity or work process. <i>(Include how long and how often this is carried out and the quantity of substance used)</i>		Fuel for spark ignition engines.					
Location of process being carried out?		On Construction Site and in the yard.					
Identify the persons at risk:		Employees <i>(including trainees)</i> ☒	Contractors ☐	Public <i>(including students)</i> ☐			
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet for this substance should be attached to this assessment)</i>		Supplied by varies petroleum companies, MSD sheet from BP.					
Classification (state the category of danger)							
 ☒ Acute toxicity Cat 1-3	 ☐ Serious health hazard	 ☒ Aquatic Environment					
 ☐ Acute toxicity (cat 4)	 ☒ Flammable	 ☐ Explosive					
 ☐ Corrosive	 ☐ Oxidising	 ☐ Gas under pressure					
Hazard Type							
☐ Gas	☐ Vapour	☐ Mist	☐ Fume	☐ Dust	☒ Liquid	☐ Solid	☐ Other (State)
Route of Exposure							
☒ Inhalation	☒ Skin	☒ Eyes	☒ Ingestion	☐ Other	(State)		
Physical and Chemical Properties							
Colour:	Light Yellow to yellow	Odour:	Gasoline [Strong]				
Melting Point:	N/A	Initial Boiling Point & Range:	30 to 210°C [86 to 410°F]				
Flash Point:	<40°C {Closed cup}	Upper/Lower Flammability or Exploive					
Vapour Pressure:	29.92 to 99.734kPa	Vapour Density:	N/A				
Relative Density	740 to 760kg/m³	Solubility:	N/A				
Auto-ignition Temperature:	>350°C [>662°F]	Viscosity:	0.4 to 0.55mm²/s @ 40°C				
State the Risks to Health from Identified Hazards							

Inhalation: Likely to be irritating to the respiratory tract if high concentrations of mist or vapour are inhaled.

Skin: Likely to cause skin irritation. Likely to result in chemical burns following prolonged wetting of the skin.

Eyes: Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.

Ingestion: Aspiration hazard if swallowed. Can enter lungs and cause damage.

Environmental Issues: Toxic to aquatic organisms, may cause long term adverse effect in the aquatic environment.

Control Measures: (for example extraction, ventilation, training, supervision).

Inhalation: Use only with adequate ventilation. Do not breathe vapour or mist. If using in confined space wear a respirator with organic vapour and dust/mist filters.

Skin: Wear clothing and footwear that cannot be penetrated by chemicals or oil.

Eyes: Wear safety glasses with side shields.

Ingestion: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Is health surveillance or monitoring required?

Yes

☐

No

☒
Personal Protective Equipment (state type and standard)

 ☐		 ☐	
Dust mask		Visor	
 ☒	If working in a confined space.	 ☒	
Respirator		Goggles	
 ☒	Wear gloves which can not be penetrated.	 ☒	Wear clothing which can not be penetrated.
Gloves		Overalls	
 ☐		 ☐	
Footwear		Other	

First Aid Measures

Inhalation: Get medical attention immediately. If inhaled removed into fresh air.

Skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Drench contaminated clothing with water before removing in case of spark from static electricity that could ignite clothing. Wash clothing before reuse.

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation occurs.

Ingestion: Get medical attention immediately. Do not induce vomiting.

Storage

Keep in closed, labelled containers as purchased. Directions on labels should be read and followed.

Disposal of Substances & Contaminated Containers

Hazardous Waste ☒ Skip ☐ Return to Depot ☐ Return to Supplier ☐ Other ☐

(If Other Please State):

Is exposure adequately controlled?

Yes

☒

No

☐
Assessment Approval:

Revision:	Name:	Position:	Date:	Review Date:
B	C Newman	HSQE & Operation Manager	04.05.2022	03.05.2023



1. Identification of the material and supplier

Product name	BP Premium Unleaded Petrol
SDS no.	0000002734
Historic SDS no.	876
Product use	Fuel for spark ignition engines. NOT for aviation use. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Supplier	BP Australia Pty Ltd (ABN 53 004 085 616) 717 Bourke Street Docklands VIC 3008 Australia Tel: +61 (03) 9268 4111 Fax: +61 (03) 9268 3321
EMERGENCY TELEPHONE NUMBER	1800 638 556
Product code	0000002734

2. Hazards identification

Statement of hazardous/dangerous nature	HAZARDOUS SUBSTANCE. DANGEROUS GOODS.
Risk phrases	R12- Extremely flammable. R45- May cause cancer. R46- May cause heritable genetic damage. R63- Possible risk of harm to the unborn child. R65- Also harmful: may cause lung damage if swallowed. R38- Irritating to skin. R67- Vapours may cause drowsiness and dizziness. R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety phrases	S2- Keep out of the reach of children. S16- Keep away from sources of ignition - No smoking. S23- Do not breathe gas/fumes/vapour/spray. S24- Avoid contact with skin. S29- Do not empty into drains. S36/37- Wear suitable protective clothing and gloves. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S61- Avoid release to the environment. Refer to special instructions/safety data sheet. S62- If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

3. Composition/information on ingredients

Ingredient name	CAS no.	%
Petrol	86290-81-5	>90
Contains:		
Benzene	71-43-2	<1
tert-butyl alcohol	75-65-0	<1
tert-butyl methyl ether	1634-04-4	<1
Polycyclic aromatic hydrocarbons (PAHs)	mixture	<1
diisopropyl ether	108-20-3	<1

4. First-aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Drench contaminated clothing with water before removing. This is necessary to avoid the risk of sparks from static electricity that could ignite contaminated clothing. Contaminated clothing is a fire hazard. Contaminated leather, particularly footwear, must be discarded. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.

Inhalation

Get medical attention immediately. If inhaled, remove to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

If exposure to vapour, mists or fumes causes drowsiness, headache, blurred vision or irritation of the eyes, nose or throat, remove immediately to fresh air. Keep patient warm and at rest. If any symptoms persist obtain medical advice.

Ingestion

Get medical attention immediately. Do not induce vomiting. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage.

5. Fire-fighting measures

Extinguishing media

Suitable

In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray.

Not suitable

Do not use water jet.

Hazardous decomposition products

Decomposition products may include the following materials: carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide)

Unusual fire/explosion hazards

Extremely flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

Special fire-fighting procedures

Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Move containers from fire area if this can be done without risk. No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. This material is toxic to aquatic organisms. Use water spray to keep fire-exposed containers cool.

Protection of fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Hazchem code

3YE

6. Accidental release measures

Personal precautions

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Large spill

Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling

Put on appropriate personal protective equipment. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not swallow. Aspiration hazard. Can enter lungs and cause damage. Never siphon by mouth. Avoid breathing vapour or mist. Avoid contact of spilt material and runoff with soil and surface waterways. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. Do not reuse container. Empty containers retain product residue and can be hazardous.

Storage

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Store and use only in equipment/containers designed for use with this product. Do not remove warning labels from containers.

Do not enter storage tanks without breathing apparatus unless the tank has been well ventilated and the tank atmosphere has been shown to contain hydrocarbon vapour concentrations of less than 1% of the lower flammability limit and an oxygen concentration of at least 20% volume.

Light hydrocarbon vapours can build up in the headspace of tanks. These can cause flammability/explosion hazards even at temperatures below the normal flash point (note: flash point must not be regarded as a reliable indicator of the potential flammability of vapour in tank headspaces). Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, ullaging and sampling from storage tanks.

When the product is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge. Ensure equipment used is properly earthed or bonded to the tank structure.

If product comes into contact with hot surfaces, or leaks occur from pressurised fuel pipes, the vapour or mists generated will create a flammability or explosion hazard.

Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use.

This product must be handled in compliance with Australian Standard: The storage and handling of flammable and combustible liquids [Standard 1940-2004 as amended and adapted].

Additional information- Storage

8 . Exposure controls/personal protection

Ingredient name

Gasoline

Occupational exposure limits

ACGIH TLV (United States, 5/2004).

STEL: 1480 mg/m³ 15 minute(s). Form: All forms

STEL: 500 ppm 15 minute(s). Form: All forms

TWA: 890 mg/m³ 8 hour(s). Form: All forms

TWA: 300 ppm 8 hour(s). Form: All forms

Benzene

NOHSC (Australia, 8/2005).

TWA: 3.2 mg/m³ 8 hour(s).

TWA: 1 ppm 8 hour(s).

tert-butyl methyl ether

NOHSC (Australia, 8/2005).

STEL: 275 mg/m³ 15 minute(s).

STEL: 75 ppm 15 minute(s).

TWA: 92 mg/m³ 8 hour(s).

TWA: 25 ppm 8 hour(s).

2-Methylpropan-2-ol

NOHSC (Australia, 1995).

STEL: 455 mg/m³ 15 minute(s).

STEL: 150 ppm 15 minute(s).

TWA: 303 mg/m³ 8 hour(s).

TWA: 100 ppm 8 hour(s).

Polycyclic aromatic hydrocarbons (PAHs)

NOHSC (Australia).

TWA: 0.2 mg/m³ 8 hour(s).

diisopropyl ether

NOHSC (Australia, 8/2005).

STEL: 1300 mg/m³ 15 minute(s).

STEL: 310 ppm 15 minute(s).

TWA: 1040 mg/m³ 8 hour(s).

TWA: 250 ppm 8 hour(s).

For information and guidance, the ACGIH values are included. For further information on these please consult your supplier.

Whilst specific OELs for certain components are included in this SDS, it should be noted that other components of the preparation will be present in any mist, vapour or dust produced. For this reason, the specific OELs may not be applicable to the product and are provided for guidance purposes.

Biological Limit Values

Benzene: S-Phenylmercapturic acid in urine - End of shift: 25 µg/g creatinine (ACGIH)
t,t-Muconic acid in urine - End of shift: 500 µg/g creatinine (ACGIH)

Exposure controls

Occupational exposure controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits.

Ensure that eyewash station and safety shower is proximal to the workstation location. All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.

Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible. The above information is provided to assist the customer in conducting its own assessment of risk to the health and safety of workers for the substance or preparation, and protection of the environment.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Respiratory protection

Use only with adequate ventilation. Do not breathe vapour or mist. Avoid breathing of vapours, mists or spray. Select and use respirators in accordance with AS/NZS 1715/1716. When mists or vapours exceed the exposure standards then the use of the following is recommended: Approved respirator with organic vapour and dust/mist filters. Filter capacity and respirator type depends on exposure level.

Skin and body

Do not get on skin or clothing. Wear clothing and footwear that cannot be penetrated by chemicals or oil. Wear face shield.

Hand protection

Wear gloves that cannot be penetrated by chemicals or oil.

The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Eye protection

Safety glasses with side shields.

9 . Physical and chemical properties

Physical state	Liquid.
Colour	Light Yellow. to Yellow.
Odour	Gasoline [Strong]
Flash point	<-40 °C (Closed cup) Pensky-Martens.
Auto-ignition temperature	>350°C (>662°F)
Explosion limits	Lower: 1.4% Upper: 7.6%
Vapour pressure	29.92 to 99.734 kPa (225 to 750 mm Hg)
Vapour density	Not available.
Viscosity	Kinematic: 0.4 to 0.55 mm ² /s (0.4 to 0.55 cSt) at 40°C
pH	Not available.
Boiling point / range	30 to 210°C (86 to 410°F)
Melting point / range	Not available.
Relative density/Specific gravity	Not available.
Density	740 to 760 kg/m ³ (0.74 to 0.76 g/cm ³)
Solubility	Not available.

10 . Stability and reactivity

Stability	The product is stable.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Avoid excessive heat.
Incompatibility with various substances/Hazardous Reactions	Reactive or incompatible with the following materials: oxidising materials.
Hazardous decomposition products	Decomposition products may include the following materials: carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide)

11 . Toxicological information

Effects and symptoms	
Eyes	Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.
Skin	Likely to cause skin irritation. Likely to result in chemical burns following prolonged wetting of the skin. (eg. after a road traffic accident).
Inhalation	Aspiration hazard if swallowed. Can enter lungs and cause damage.
Ingestion	Likely to be irritating to the respiratory tract if high concentrations of mists or vapour are inhaled. May cause nausea, dizziness, headaches and drowsiness if high concentrations of vapour are inhaled. Solvent "sniffing" (abuse) or intentional overexposure to vapours can produce serious central nervous system effects, including unconsciousness, and possibly death.
Chronic toxicity	
Carcinogenic effects	Exposure to benzene may result in effects to the hematopoietic system causing blood disorders including anaemia and leukaemia. Benzene is classified by EEC as a category 1 carcinogen - substances known to be carcinogenic to man. IARC assessment: benzene - carcinogenic to humans (Group 1)
Mutagenic effects	Contains material which may cause heritable genetic effects. Benzene

12 . Ecological information

Ecotoxicity	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Biodegradability	
Persistence/degradability	The biodegradability of this material has not been determined.
Mobility	Spillages may penetrate the soil causing ground water contamination.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.
Other ecological information	Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13 . Disposal considerations

Disposal considerations / Waste information

The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Special Precautions for Landfill or Incineration

No additional special precautions identified.

14 . Transport information

International transport regulations

Regulatory information	UN number	Proper shipping name	Class	PG*	Label	Additional information
ADG Classification	UN1203	Gasoline or Motor Spirit (Gasoline)	3	II		Hazchem code 3YE
IMDG Classification	UN1203	Gasoline or Motor Spirit (Gasoline). Marine pollutant (Benzene)	3	II	 	Emergency schedules (EmS) F-E; S-E
IATA/ICAO Classification	UN1203	Gasoline or Motor Spirit (Gasoline)	3	II	 	-

PG* : Packing group

Special precautions for user

No known special precautions required. See Section: "Handling and storage" for additional information.

15 . Regulatory information

Standard for the Uniform Scheduling of Medicines and Poisons

Not scheduled

Consumer products - This product is exempt per Appendix A of the SUSMP.

Industrial Products - Labelling requirements for SUSMP do not apply to a poison that is packed and sold solely for industrial, laboratory or manufacturing use. However, this product is labelled in accordance with NOSH National Code of Practice for labelling of workplace substances.

Control of Scheduled Carcinogenic Substances

Ingredient name

Benzene

Schedule

Schedule: 2. when used as a feedstock containing more than 50% of benzene by volume

Other regulations

REACH Status

For the REACH status of this product please consult your company contact, as identified in Section 1.

United States inventory (TSCA 8b)

Not determined.

Australia inventory (AICS)

Contact local supplier or distributor.

Canada inventory

At least one component is not listed.

China inventory (IECSC)

At least one component is not listed.

Japan inventory (ENCS)

At least one component is not listed.

Korea inventory (KECI)

At least one component is not listed.

Philippines inventory (PICCS)

At least one component is not listed.

16 . Other information

Key to abbreviations

AMP = Acceptable Maximum Peak
ACGIH = American Conference of Governmental Industrial Hygienists, an agency that promulgates exposure standards.
ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail
ADG Code = Australian Code for the Transport of Dangerous Goods by Road and Rail
CAS Number = Chemical Abstracts Service Registry Number
HAZCHEM Code = Emergency action code of numbers and letters which gives information to emergency services. Its use is required by the ADG Code for Dangerous Goods in bulk.
ICAO = International Civil Aviation Organization.
IATA = International Air Transport Association, the organization promulgating rules governing shipment of goods by air.
IMDG = International Maritime Organization Rules, rules governing shipment of goods by water.
IP 346 = A chemical screening assay for dermal toxicity. The European Commission has recommended that Method IP 346 be used as the basis for labelling certain lubricant oil base stocks for carcinogenicity. The EU Commission has stipulated that the classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346. (See Note L, European Commission Directive 67/548/EEC as amended and adapted.) DMSO is a solvent.
NOHSC = National Occupational Health & Safety Commission, Australia
TWA = Time weighted average
STEL = Short term exposure limit
UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

History

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Prepared by Product Stewardship

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.

	<h1 style="margin: 0;">COSHH Risk Assessment for No: Brick Cleaner</h1>	COSHH NO: 009	
Describe the activity or work process. <i>(Include how long and how often this is carried out and the quantity of substance used)</i>	To remove concrete splatter from plant and machinery		
Location of process being carried out?	On construction sites or in the yard.		
Identify the persons at risk:	Employees <i>(including trainees)</i> ☒	Contractors ☐	
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet for this substance should be attached to this assessment)</i>	Bostik brick and patio cleaner		
Classification (state the category of danger)			
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%; text-align: center;">  ☐ Acute toxicity Cat 1-3 </div> <div style="width: 33%; text-align: center;">  ☐ Serious health hazard </div> <div style="width: 33%; text-align: center;">  ☒ Aquatic Environment </div> <div style="width: 33%; text-align: center;">  ☒ Acute toxicity (cat 4) </div> <div style="width: 33%; text-align: center;">  ☐ Flammable </div> <div style="width: 33%; text-align: center;">  ☐ Explosive </div> <div style="width: 33%; text-align: center;">  ☐ Corrosive </div> <div style="width: 33%; text-align: center;">  ☐ Oxidising </div> <div style="width: 33%; text-align: center;">  ☐ Gas under pressure </div> </div>			
Hazard Type			
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div>☐</div> <div>☐</div> <div>☐</div> <div>☐</div> <div>☐</div> <div>☒</div> <div>☐</div> <div>☐</div> </div> <div style="display: flex; justify-content: space-around; font-size: small;"> Gas Vapour Mist Fume Dust Liquid Solid Other (State) </div>			
Route of Exposure			
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div>☒</div> <div>☒</div> <div>☒</div> <div>☒</div> <div>☐</div> </div> <div style="display: flex; justify-content: space-around; font-size: small;"> Inhalation Skin Eyes Ingestion Other (State) </div>			
Physical and Chemical Properties			
Colour:	Pale Blue	Odour:	Characteristic odour
pH:	0.3	Initial Boiling Point & Range:	N/A
Flash Point:	>100°C	Upper/Lower Flammability or Exploive	N/A
Vapour Pressure:	N/A	Vapour Density:	N/A
Relative Density	1.12	Solubility:	Soluble
Auto-ignition Temperature:	N/A	Viscosity:	N/A

State the Risks to Health from Identified Hazards			
Inhalation: May cause irritation to nose, throat and cause headache, fatigue, dizziness and incoordination. Skin: May result in moderate irritation. Eyes: Irritating to eyes. Ingestion: Large amounts may cause nausea and diarrhoea.			
Control Measures: (for example extraction, ventilation, training, supervision).			
Inhalation: Avoid heavy concentration of vapours or mist and ensure work area is well ventilated. Skin: Avoid contact with skin by using suitable protective clothing. Eyes: Wear eye protection Ingestion: Wash hands thoroughly before eating, drinking or smoking.			
Is health surveillance or monitoring required? <div style="float: right;"> Yes ☐ No ☒ </div>			
Personal Protective Equipment (state type and standard)			
 ☒ Dust mask	When working in a confined space.	 ☐ Visor	
 ☐ Respirator		 ☒ Goggles	
 ☒ Gloves		 ☐ Overalls	
 ☐ Footwear		 ☐ Other	
First Aid Measures			
Inhalation: Remove person to fresh air and seek medical attention if irritation persists Skin: Remove all contaminated clothing and wash affected areas thoroughly with soap and water. Seek medical attention if irritation persists. Eyes: Flush eyes with water for 15 minutes. If irritation persists seek medical attention. Ingestion: Wash mouth with water. Do not induce vomiting. Seek medical attention if symptoms persist.			
Storage			
Keep in closed, labelled containers as purchased. Directions on labels should be read and followed.			
Disposal of Substances & Contaminated Containers			
Hazardous Waste ☒ Skip ☐ Return to Depot ☐ Return to Supplier ☐ Other ☐			
(If Other Please State):			

Is exposure adequately controlled?	Yes ☒ No ☐			
Assessment Approval:				
Revision:	Name:	Position:	Date:	Review Date:
A	C Newman	HSQE & Operation Manager	18.06.2021	17.06.2022
B	C Newman	HSQE & Operation Manager	04.05.2022	03.05.2023



SAFETY DATA SHEET

CEMENTONE BRICK AND PATIO CLEANER

According to Regulation (EC) No 1907/2006

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name CEMENTONE BRICK AND PATIO CLEANER
 Product No. 365582x, 365599, 365605, 365674x

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

Supplier BOSTIK LIMITED
 COMMON ROAD
 STAFFORD
 STAFFORDSHIRE
 ST16 3EH
 +44 1785 272625
 sds.uk@bostik.com

1.4. Emergency telephone number

+44 1785 272650 (24 Hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)	Physical and Chemical Hazards	Not classified.
	Human health	Not classified.
	Environment	Not classified.
Classification (1999/45/EEC)	Not classified.	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

2.2. Label elements

Label In Accordance With (EC) No. 1272/2008

No pictogram required.

Precautionary Statements

P102	Keep out of reach of children.
P281	Use personal protective equipment as required.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P402+404	Store in a dry place. Store in a closed container.

2.3. Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

CEMENTONE BRICK AND PATIO CLEANER

HYDROCHLORIC ACID ...%		5-10%
CAS-No.: 7647-01-0	EC No.: 231-595-7	
Classification (EC 1272/2008)	Classification (67/548/EEC)	
Skin Corr. 1B - H314	C;R34	
STOT SE 3 - H335	Xi;R37	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information

General first aid, rest, warmth and fresh air.

Inhalation

Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

Ingestion

DO NOT induce vomiting. Get medical attention immediately.

Skin contact

Remove affected person from source of contamination. Rinse the skin immediately with lots of water. Get medical attention if irritation persists after washing.

Eye contact

Rinse the eye with water immediately. Continue to rinse for at least 15 minutes and get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation

No specific symptoms noted.

Ingestion

No specific symptoms noted.

Skin contact

No specific symptoms noted.

Eye contact

No specific symptoms noted.

4.3. Indication of any immediate medical attention and special treatment needed

No specific first aid measures noted.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.

5.2. Special hazards arising from the substance or mixture

Specific hazards

Fire or high temperatures create: Toxic gases/vapours/fumes of: Carbon dioxide (CO₂). Carbon monoxide (CO).

5.3. Advice for firefighters

Protective equipment for fire-fighters

Use protective equipment appropriate for surrounding materials.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Do not discharge into drains, water courses or onto the ground.

CEMENTONE BRICK AND PATIO CLEANER

6.3. Methods and material for containment and cleaning up

Stop leak if possible without risk. Do not contaminate water sources or sewer. Pick up with vacuum or absorbent solid, store in closed container for disposal. Avoid generation and spreading of dust. Avoid contact with skin or inhalation of spillage, dust or vapour. Wear necessary protective equipment. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

6.4. Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Do not handle broken packages without protective equipment. Use mechanical ventilation in case of handling which causes formation of dust. Avoid spilling, skin and eye contact.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
HYDROCHLORIC ACID ...%	WEL	1 ppm	2 mg/m3	5 ppm	8 mg/m3	

WEL = Workplace Exposure Limit.

Ingredient Comments

WEL = Workplace Exposure Limits

8.2. Exposure controls

Protective equipment



Process conditions

Use engineering controls to reduce air contamination to permissible exposure level.

Engineering measures

All handling to take place in well-ventilated area.

Respiratory equipment

Wear respirator if there is dust formation.

Hand protection

Use suitable protective gloves if risk of skin contact. Use thin cotton gloves inside the rubber gloves if allergy risk.

Eye protection

If risk of splashing, wear safety goggles or face shield.

Other Protection

Wear suitable protective clothing as protection against splashing or contamination.

Hygiene measures

Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Use appropriate skin cream to prevent drying of skin. DO NOT SMOKE IN WORK AREA!

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

CEMENTONE BRICK AND PATIO CLEANER

Appearance	Liquid
pH-Value, Conc. Solution	approx 1

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No specific reactivity hazards associated with this product.

10.2. Chemical stability

Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions

Not available.

Hazardous Polymerisation

Unknown.

10.4. Conditions to avoid

Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials To Avoid

No incompatible groups noted.

10.6. Hazardous decomposition products

Fire creates: Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Health Warnings

Serious long-term effects are not known to be related to this type of product. Particles in the eyes may cause irritation and smarting. May cause discomfort if swallowed.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.1. Toxicity

No data available

12.2. Persistence and degradability

Degradability

There are no data on the degradability of this product.

12.3. Bioaccumulative potential

Bioaccumulative potential

No data available on bioaccumulation.

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

No data available

12.6. Other adverse effects

Not available.

CEMENTONE BRICK AND PATIO CLEANER

SECTION 13: DISPOSAL CONSIDERATIONS

General information

When handling waste, consideration should be made to the safety precautions applying to handling of the product.

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements. Recover and reclaim or recycle, if practical.

SECTION 14: TRANSPORT INFORMATION

General

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Transport Labels

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Statutory Instruments

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).

Approved Code Of Practice

Classification and Labelling of Substances and Preparations Dangerous for Supply.

Guidance Notes

Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37.

EU Legislation

Dangerous Substance Directive 67/548/EEC. Dangerous Preparations Directive 1999/45/EC. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.

15.2. Chemical Safety Assessment

SECTION 16: OTHER INFORMATION

General information

This product should be used as directed by Bostik Ltd. For further information consult the product data sheet or contact Technical Services.

CEMENTONE BRICK AND PATIO CLEANER

Information Sources

This safety data sheet was compiled using current safety information supplied by distributor of raw materials.

Revision Comments

NOTE: Lines within the margin indicate significant changes from the previous revision. This safety data sheet supersedes all previous issues and users are cautioned to ensure that it is current. Destroy all previous data sheets and if in doubt contact Bostik Limited.

Issued By Approved LJ

Revision Date March 2013

Revision 7

Date August 2004

Risk Phrases In Full

R34 Causes burns.

R37 Irritating to respiratory system.

NC Not classified.

Hazard Statements In Full

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

	<h1 style="margin: 0;">COSH Risk Assessment for No: Delvo</h1>	COSH NO: 010	
Describe the activity or work process. <i>(Include how long and how often this is carried out and the quantity of substance used)</i>	Added to concrete to prolong the life of the concrete by approx. 4 hours.		
Location of process being carried out?	On Construction Sites.		
Identify the persons at risk:	Employees ☒ (including trainees)	Contractors ☐	
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet for this substance should be attached to this assessment)</i>	Master Set DELVO also Delvo Stabilizer.		
Classification (state the category of danger)			
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%; text-align: center;">  ☐ Acute toxicity Cat 1-3 </div> <div style="width: 33%; text-align: center;">  ☒ Serious health hazard </div> <div style="width: 33%; text-align: center;">  ☒ Aquatic Environment </div> <div style="width: 33%; text-align: center;">  ☒ Acute toxicity (cat 4) </div> <div style="width: 33%; text-align: center;">  ☐ Flammable </div> <div style="width: 33%; text-align: center;">  ☐ Explosive </div> <div style="width: 33%; text-align: center;">  ☐ Corrosive </div> <div style="width: 33%; text-align: center;">  ☐ Oxidising </div> <div style="width: 33%; text-align: center;">  ☐ Gas under pressure </div> </div>			
Hazard Type			
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div>☐</div> <div>☐</div> <div>☐</div> <div>☐</div> <div>☒</div> <div>☐</div> <div>☐</div> <div>☐</div> </div> <div style="display: flex; justify-content: space-around; font-size: small;"> Gas Vapour Mist Fume Dust Liquid Solid Other (State) </div>			
Route of Exposure			
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div>☒</div> <div>☒</div> <div>☒</div> <div>☒</div> <div>☐</div> </div> <div style="display: flex; justify-content: space-around; font-size: small;"> Inhalation Skin Eyes Ingestion Other (State) </div>			
Physical and Chemical Properties			
Colour:	White	Odour:	odourless
pH value:	3.5	Initial Boiling Point & Range:	105°C
Freezing Point:	-3°C	Upper/Lower Flammability or Exploive	N/A
Vapour Pressure:	0.0227 ATM	Vapour Density:	Heavier than Air
Relative Density	1.061 – 1.075g/cm³	Solubility:	[20°C] Soluble
Auto-ignition Temperature:	N/A	Viscosity:	N/A

State the Risks to Health from Identified Hazards
Inhalation: May cause breathing difficulty.

Skin: May cause skin irritation.

Eyes: May cause eye irritation.

Ingestion: Ingestion may cause irritation to mucous membranes.

Control Measures: (for example extraction, ventilation, training, supervision).
Inhalation: If bag has split wear appropriate certified respirators.

Skin: Cover all exposed skin to prevent all skin contact, light protective clothing.

Eyes: Wear safety glasses with side shields.

Ingestion: Wash hands thoroughly before eating, drinking or smoking.

Is health surveillance or monitoring required?

Yes

☐

No

☒
Personal Protective Equipment (state type and standard)

 ☒	If sachet has opened wear dust mask.	 ☐	
 ☐		 ☒	
 ☒		 ☐	
 ☐		 ☐	

First Aid Measures
Inhalation: Keep patient calm, remove to fresh air, seek medical attention.

Skin: Wash thoroughly with soap and water.

Eyes: Wash affected eyes for at least 15 minutes under running water with eyelids held open.

Ingestion: Immediately rinse mouth and then drink 200-300ml of water, seek medical attention.

Storage

Keep in closed, labelled containers as purchased. Directions on labels should be read and followed.

Disposal of Substances & Contaminated Containers

 Hazardous Waste ☒ Skip ☐ Return to Depot ☐ Return to Supplier ☐ Other ☐

(If Other Please State):

Is exposure adequately controlled?

Yes

☒

No

☐
Assessment Approval:

Revision:	Name:	Position:	Date:	Review Date:
A	C Newman	HSQE & Operation Manager	18.06.2021	17.06.2022
B	C Newman	HSQE & Operation Manager	04.05.2022	03.05.2023

Safety Data Sheet

MasterSet DELVO also Delvo Stabilizer

Revision date : 2014/02/27

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(30605455/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

MasterSet DELVO also Delvo Stabilizer

Recommended use of the chemical and restriction on use

Recommended use: for industrial and professional users

* The "Recommended use" identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION

100 Park Avenue

Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Chemical family: No data available.

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Carc.

2

Carcinogenicity

Label elements (Emergency overview)

Pictogram:

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Signal Word:
Warning

Hazard Statement:
H351 Suspected of causing cancer.

Precautionary Statements (Prevention):
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P202 Do not handle until all safety precautions have been read and understood.

Precautionary Statements (Response):
P308 + P311 IF exposed or concerned: Call a POISON CENTER or doctor/physician.

Precautionary Statements (Storage):
P405 Store locked up.

Precautionary Statements (Disposal):
P501 Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

Emergency overview

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

WARNING:
MAY CAUSE EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.
Ingestion may cause irritation to mucous membranes.
CONTAINS MATERIAL WHICH MAY CAUSE CANCER.
Avoid contact with the skin, eyes and clothing.
Wash thoroughly after handling.
Keep container tightly closed.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
88-06-2	>= 0.1 - < 0.2 %	2,4,6-trichlorophenol
6419-19-8	>= 3.0 - < 5.0 %	Phosphonic acid, [nitrilotris(methylene)]tris-

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
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(30605455/SDS_GEN_US/EN)

6419-19-8	>= 3.0 - <= 7.0 %	Phosphonic acid, [nitrilotris(methylene)]tris-
88-06-2	>= 0.1 - <= 1.0 %	2,4,6-trichlorophenol

4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

If on skin:

Wash thoroughly with soap and water.

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Hazards: No applicable information available.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:

Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

foam, water spray, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:

water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

carbon monoxide, carbon dioxide, harmful vapours, nitrogen oxides, fumes/smoke, carbon black

Advice for fire-fighters

Protective equipment for fire-fighting:

Wear a self-contained breathing apparatus.

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Further information:

The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Do not breathe vapour/aerosol/spray mists. Handle in accordance with good building materials hygiene and safety practice.

Environmental precautions

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For small amounts: Pick up with inert absorbent material (e.g. sand, earth etc.). Dispose of contaminated material as prescribed.

For large amounts: Pump off product.

7. Handling and Storage

Precautions for safe handling

Avoid aerosol formation. Avoid inhalation of mists/vapours. Avoid skin contact. No special measures necessary provided product is used correctly.

Protection against fire and explosion:

The product does not contribute to the spreading of flames, nor is it self combustible, not explosive.

Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE)

Further information on storage conditions: Keep only in the original container in a cool, well-ventilated place. Protect from direct sunlight. Store protected against freezing.

Protect from temperatures below: 5 °C

The packed product must be protected from temperatures below the indicated one.

Protect from temperatures below: 40 °F

The packed product must be protected from temperatures below the indicated one.

8. Exposure Controls/Personal Protection

Advice on system design:

No applicable information available.

Personal protective equipment

Respiratory protection:

When workers are facing concentrations above the occupational exposure limits they must use appropriate certified respirators.

Safety Data Sheet

MasterSet DELVO also Delvo Stabilizer

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(30605455/SDS_GEN_US/EN)

Hand protection:

Wear chemical resistant protective gloves.

Eye protection:

Safety glasses with side-shields.

Body protection:

depending upon conditions of use., Cover as much of the exposed skin as possible to prevent all skin contact., light protective clothing

General safety and hygiene measures:

Avoid contact with the skin, eyes and clothing. In order to prevent contamination while handling, closed working clothes and working gloves should be used. Handle in accordance with good building materials hygiene and safety practice. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks).

9. Physical and Chemical Properties

Form:	liquid	
Odour:	odourless	
Odour threshold:	No data available.	
Colour:	red	
pH value:	3.5	(20 °C)
Freezing point:	-3 °C	
Boiling point:	105 °C	
<i>Information on: Water</i>		
Boiling point:	100 °C	

Sublimation temperature:		No applicable information available.
Flash point:		A flash point determination is unnecessary due to the high water content.
Upper explosion limit:		No applicable information available.
Autoignition:		Based on the water content the product does not ignite.
Vapour pressure:	0.0227 ATM	contains water, negligible
Density:	1.061 - 1.075 g/cm3	(20 °C)
Vapour density:		Heavier than air.
Partitioning coefficient n-octanol/water (log Pow):		not applicable
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Viscosity, dynamic:		not determined
Viscosity, kinematic:		No applicable information available.
Solubility in water:		(20 °C) soluble
Miscibility with water:		(20 °C) soluble
Solubility in other solvents:		No applicable information available.
Solubility (qualitative):	No applicable information available.	
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.	

Safety Data Sheet

MasterSet DELVO also Delvo Stabilizer

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10. Stability and Reactivity

Reactivity

Additional information:

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:

Corrosive effect on: mild steel aluminum The product is not to be labelled as corrosive for transport purposes.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

Hazardous reactions:

The product is stable if stored and handled as prescribed/indicated.

Conditions to avoid

Conditions to avoid:

Avoid extreme temperatures.

Incompatible materials

Substances to avoid:

strong acids, strong bases, strong oxidizing agents

Hazardous decomposition products

Decomposition products:

Possible decomposition products: phosphines, carbon oxides

Thermal decomposition:

No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity:

Ingestion may cause gastrointestinal disturbances. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Phosphonic acid, [nitrilotris(methylene)]tris-

Assessment of acute toxicity:

Of low toxicity after single ingestion. Virtually nontoxic after a single skin contact.

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Information on: 2,4,6-trichlorophenol

Assessment of acute toxicity:

Of moderate toxicity after single ingestion. Of moderate toxicity after short-term skin contact.

Inhalation

No applicable information available.

Irritation / corrosion

Assessment of irritating effects:

No applicable information available.

Information on: Phosphonic acid, [nitrilotris(methylene)]tris-

Assessment of irritating effects:

Eye contact causes irritation. Skin contact causes irritation.

Information on: 2,4,6-trichlorophenol

Assessment of irritating effects:

Skin contact causes irritation. May cause severe damage to the eyes.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: No reliable data was available concerning repeated dose toxicity. Based on available Data, the classification criteria are not met.

Genetic toxicity

Assessment of mutagenicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Information on: 2,4,6-trichlorophenol

Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was mutagenic in a mammalian cell culture test system. The substance was mutagenic in studies with mammals.

Carcinogenicity

Assessment of carcinogenicity: Indication of possible carcinogenic effect in animal tests.

Information on: 2,4,6-trichlorophenol

Assessment of carcinogenicity: The substance caused cancer in animal studies.

Reproductive toxicity

Assessment of reproduction toxicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Teratogenicity

Assessment of teratogenicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Other Information

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The product has not been tested. The statement has been derived from the properties of the individual components.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Based on available Data, the classification criteria are not met. There is a high probability that the product is not acutely harmful to aquatic organisms.

Toxicity to fish

LC0 (96 h) 5,000 mg/l, *Salmo gairdneri*, syn. *O. mykiss*

Aquatic invertebrates

LC0 (48 h) 400 mg/l, *Daphnia magna*

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Inherently biodegradable. The insoluble fraction can be removed by mechanical means in suitable waste water treatment plants.

Bioaccumulative potential

Assessment bioaccumulation potential

Discharge into the environment must be avoided.

Mobility in soil

Assessment transport between environmental compartments

No data available.

Additional information

Other ecotoxicological advice:

Ecological data are not available. Do not allow to enter soil, waterways or waste water channels.

13. Disposal considerations

Waste disposal of substance:

Recommendations: Use excess product in an alternate beneficial application. Dispose of in accordance with local authority regulations. Do not discharge into drains/surface waters/groundwater.

Container disposal:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

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14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Acute;

CERCLA RQ

10 LBS

CAS Number

88-06-2

Chemical name

2,4,6-trichlorophenol

State regulations

State RTK

MA, NJ, PA

CAS Number

88-06-2

Chemical name

2,4,6-trichlorophenol

CA Prop. 65:

THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

NFPA Hazard codes:

Health : 1 Fire: 0 Reactivity: 0 Special:

HMIS III rating

Health: 1 Flammability: 0 Physical hazard: 0

16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2014/02/27

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END OF DATA SHEET

	<h1 style="margin: 0;">COSHH Risk Assessment for No: Epoxy Resin</h1>	COSHH NO: 011	
Describe the activity or work process. <i>(Include how long and how often this is carried out and the quantity of substance used)</i>	Used to dowel bars into the top of pile caps when there is no steel reinforcement showing.		
Location of process being carried out?	On construction sites.		
Identify the persons at risk:	Employees ☒ (including trainees)	Contractors ☐	
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet for this substance should be attached to this assessment)</i>	Rawlplug R-KEM-II		
Classification (state the category of danger)			
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%; text-align: center;">  ☐ Acute toxicity Cat 1-3 </div> <div style="width: 33%; text-align: center;">  ☐ Serious health hazard </div> <div style="width: 33%; text-align: center;">  ☒ Aquatic Environment </div> <div style="width: 33%; text-align: center;">  ☒ Acute toxicity (cat 4) </div> <div style="width: 33%; text-align: center;">  ☒ Flammable </div> <div style="width: 33%; text-align: center;">  ☐ Explosive </div> <div style="width: 33%; text-align: center;">  ☐ Corrosive </div> <div style="width: 33%; text-align: center;">  ☐ Oxidising </div> <div style="width: 33%; text-align: center;">  ☐ Gas under pressure </div> </div>			
Hazard Type			
<div style="display: flex; justify-content: space-around; align-items: center;"> <div>☐</div> <div>☐</div> <div>☐</div> <div>☐</div> <div>☐</div> <div>☒</div> <div>☐</div> <div>☐</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> Gas Vapour Mist Fume Dust Liquid Solid Other (State) </div>			
Route of Exposure			
<div style="display: flex; justify-content: space-around; align-items: center;"> <div>☐</div> <div>☒</div> <div>☒</div> <div>☒</div> <div>☐</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> Inhalation Skin Eyes Ingestion Other (State) </div>			
Physical and Chemical Properties			
Colour:	Component A – Yellow Component B – Black, Pink	Odour:	Ester-like
Melting Point:	N/A	Initial Boiling Point & Range:	Component B: 197°C
Flash Point:	Component A: 49°C	Upper/Lower Flammability or Exploive	N/A
Vapour Pressure:	N/A	Vapour Density:	N/A
Relative Density	A: 1,52 + 0,05 [g/cm³] B: 1,21 + 0,05 [g/cm³]	Solubility:	Insoluble in water, partly soluble in acetone and isopropyl.
Auto-ignition Temperature:	N/A	Viscosity:	N/A

State the Risks to Health from Identified Hazards			
Skin: Causes skin irritation, may cause an allergic reaction. Eyes: Causes serious eye irritation. Ingestion: Causes a serious irritation if swallowed. Environment: Very toxic to aquatic life.			
Control Measures: (for example extraction, ventilation, training, supervision).			
Skin: Keep skin covered, use protective clothes. Eyes: Wear safety glasses Ingestion: Wash your hands with soap and water before eating, drinking or smoking. Environment: Avoid release to the environment.			
Is health surveillance or monitoring required? <div style="float: right;"> Yes ☐ No ☒ </div>			
Personal Protective Equipment (state type and standard)			
 ☐ Dust mask		 ☐ Visor	
 ☐ Respirator		 ☒ Goggles	
 ☒ Gloves		 ☒ Overalls	
 ☐ Footwear		 ☐ Other	
First Aid Measures			
Skin: Wash with plenty of soap and water for at least 10 minutes. Remove contaminated clothing and shoes. In case irritation or any complaints occur, get medical attention and avoid further exposure. Eyes: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention. Ingestion: Wash out mouth with water. Move the exposed individual to the fresh air and keep at rest in position comfortable for breathing. Environment: Inform relevant authorities if the product has caused environmental pollution.			
Storage			
Keep in closed, labelled containers as purchased. Directions on labels should be read and followed.			
Disposal of Substances & Contaminated Containers			
Hazardous Waste ☒ Skip ☐ Return to Depot ☐ Return to Supplier ☐ Other ☐ (If Other Please State):			

Is exposure adequately controlled?	Yes ☒ No ☐			
Assessment Approval:				
Revision:	Name:	Position:	Date:	Review Date:
A	C Newman	HSQE & Operation Manager	18.06.2021	17.06.2022
B	C Newman	HSQE & Operation Manager	04.05.2022	03.05.2023
C	C Newman	HSQE & Operation Manager	12.10.2023	11.10.2023

Safety Data Sheet

In accordance with Regulation (EC) No. 1907/2006 and No. 453/2010

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name: R-KEM-II, R-KEM-II-W, R-KEM-II-S; R-CFS+RM50, R-CFS+RM50-W, R-CFS+RM50-S

1.2. Relevant identified uses of substance or mixture and uses advised against

Chemical anchoring system for building industry

1.3. Details of the supplier of the safety data sheet

Rawlplug S.A.

ul. Kwidzyńska 6

51-416 Wrocław

Poland

Telephone number (Fax)

+48 (0) 71 32 60 100 (+48 (0) 71 37 26 111)

E-mail address of competent person
responsible for the SDS

infochem@rawlplug.com

1.4. Emergency telephone number : 0048 661 970 365 (Monday-Friday: 8.00-16.00, English)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Commission Regulation (EC) No. 1272/2008:

Org. Perox. E	H242	Heating may cause a fire
Flam. Liq. 3	H226	Flammable liquid and vapour
Skin Sens. 1	H317	May cause an allergic skin reaction
Skin Irrit. 2	H315	Causes skin irritation
Eye Irrit. 2	H319	Causes serious eye irritation
Aquatic acute 1	H400	Very toxic to aquatic life

2.2. Label elements

GHS pictograms:



Signal word:

Warning

Hazard statements:

H242	Heating may cause a fire
H226	Flammable liquid and vapour
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H400	Very toxic to aquatic life
EUH208	Contains dibenzoyl peroxide. May produce an allergic reaction.

Precautionary statements:

Prevention:	P273	Avoid release to the environment
	P280	Wear protective gloves/protective clothing/eye protection/face protection
Response:	P302+P352	IF ON SKIN: Wash with plenty of soap and water.
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
	P337+P313	If eye irritation persists: Get medical advice/attention.
Storage:	-	
Disposal:	-	
Dangerous substances:	Dibenzoyl peroxide	

2.3. Other hazards This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Section 3: : Composition/information on ingredients

3.1. Substances Not applicable

3.2. Mixtures

Product identifiers	Ingredient name	Content (% wt.)	Classification
			(EC) 1272/2008 [CLP]
Component A			
CAS: 25013-15-4 WE: 246-562-2	Vinyl toluene	12 - 20	Acute Tox. 4, H332; Asp. Tox. 1, H304; Eye Irrit. 2, H319; Flam. Lig. 3, H226; Skin Irrit. 2, H315
CAS: 68131-39-5 WE: 500-195-7	Alcohols, C12-15, ethoxylated	<0,3	Acute Tox. 4, H302; Aquatic Acute 1, H400; Aquatic Chronic 1, H410
Component B			
Index number: 617-008-00-0 WE: 202-327-6 CAS: 94-36-0	Dibenzoyl peroxide	15 – 20	Org. Perox. B, H241; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Acute 1, H400
Index number: 603-027-00-1 WE: 203-473-3 CAS: 107-21-1	Ethylene glycol	< 10	Acute Tox. 4, H302; STOT RE 2, H373

Additional information: For the wording of the listed phrases refer to section 16.

Section 4: First aid measures

4.1. Description of first aid measures

Following inhalation:	Move the exposed individual to the fresh air and keep at rest in a position comfortable for breathing. If not breathing, breathing is irregular or respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Contact toxicology center.
Following skin contact:	Wash with plenty of soap and water for at least 10 minutes. Remove contaminated clothing and shoes. In case irritation or any complaints occur, get medical attention and avoid further exposure.
Following eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Check for and remove any contact lenses. Get medical attention.

Following ingestion: Wash out mouth with water. Move the exposed individual to the fresh air and keep at rest in position comfortable for breathing. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low, so that the vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Loosen tight clothing (e.g. tie, belt). Get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Product can cause irritation to eyes, skin and respiratory system. It can also lead to skin sensitization. After exposure, symptoms can be delayed. Contact with eyes can result in eye erythema and excessive lacrimation. Exposure of inhalation routes can cause coughing. Prolonged exposure of skin can cause erythema. Lack of data on symptoms occurring after ingestion.

4.3. Indication of any immediate medical attention and special treatment needed

In case of inhalation of decomposition products, symptoms may be delayed. Exposed individual may need to be kept under medical surveillance for 48 hours.

Section 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Use dry chemical (ABC powder) or CO₂, optionally spray mist water.

Unsuitable extinguishing media: Unknown

5.2. Special hazards arising from the substance or mixture

In case of fire, hazardous decomposition products can arise: e.g. carbon oxides, unidentified hydrocarbons.

5.3. Advice for firefighters

Use full protective clothing compliant with EN 469 standard. Wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face piece operated in positive pressure mode. Product containers exposed to heat cool with water.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

No action involving any health risk shall be taken through contact with product. Avoid contact with product without personal protective equipment, in case of contact with large quantities of product or ventilation is insufficient. Avoid breathing vapours.

For emergency responders:

Disposal of product spillage should be taken only if personal protective equipment described in section 8 is available.

6.2. Environmental precautions

Avoid dispersal of spilled material and its contact with soil, sewers, surface and ground water. Inform the relevant authorities if the product has caused environmental pollution.

6.3. Methods and material for containment and cleaning up

Secure drains and sewers. Collect product mechanically (e.g. with shovel) together with contaminated soil. Possible spillages absorb with inert, absorbent material (e.g. sand, earth, diatomaceous earth) and place in an appropriate waste disposal container according to local regulations. For further information see section 13

6.4. Reference to other sections

See section 8 for information on appropriate personal protective equipment.
See section 13 for additional waste treatment information.

Section 7: Handling and storage

7.1. Precautions for safe handling

Put on an appropriate personal protective equipment (see section 8). Persons with a history of skin sensitization problems should avoid contact with product. Do not allow product to contact eyes or skin. Avoid breathing vapours released during curing process. Use only in places with sufficient ventilation. Wear appropriate respirator when ventilation is inadequate. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Follow the manufacturer's instructions for use of product. Keep product in the original container. Do not use product after the expiration date.

7.2. Conditions for safe storage, including any incompatibilities

Store in original container, keep tightly closed when not in use. Protect from direct sunlight and other heat sources in dry, well-ventilated area, away from incompatible materials, food and drink. Store at 5– 25 °C. To ensure product stability avoid temperature fluctuation during storage (overheating and undercooling).

7.3. Specific end use(s) See Section 1

Section 8: Exposure controls/personal protection

8.1. Control parameters

2. Control parameters					
Ingredient name	Long-term exposure		Short-term exposure		Comments
	mg/m ³	ppm	mg/m ³	ppm	
<u>Ethylene glycol (particulate)</u>					
Belgium/Latvia	52	20	104	40	-
Germany/Switzerland	26	10	52	20	-
Hungary	10	-	104	-	-
Sweden	25	10	50	20	-
United Kingdom	10	-	-	-	-
<u>Ethylene glycol (vapour)</u>					
Austria/Denmark/Germany/Switzerland	26	10	52	20	-
France/Ireland/United Kingdom	52	20	104	40	-
Sweden	25	10	50	20	-
<u>Dibenzoyl peroxide:</u>					
Austria/Denmark	5	-	10	-	Inhalable aerosol
Belgium/France/USA (NIOSH)/United Kingdom	5	-	-	-	-
Germany/Hungary/Switzerland	5	-	5	-	Inhalable aerosol
<u>Vinyl toluene:</u>					
Austria	480	100	480	100	-
Belgium	246	50	490	100	-
Denmark	120	25	240	50	-
France	240	50	-	-	-
Germany	490	100	980	200	-
Ireland	242	50	483	100	-
Latvia	50	-	-	-	-
Spain	246	50	492	100	-
Sweden	50	10	150	30	-
Switzerland	240	50	480	100	-

DN(M)ELs

Ingredient name	Route of exposure	Value	Group	Effect
Dibenzoyl peroxide	Oral	1,65 mg/kg	Consumers	Systematic, long-term
	Dermal	3,3 mg/kg	Consumers	Systematic, long-term
	Inhalation	6,6 mg/kg	Workers	Systematic, long-term
		2,9 mg/m ³	Consumers	Systematic, long-term
		11,75 mg/m ³	Workers	Systematic, long-term
Ethylene glycol	Dermal	53 mg/kg	Consumers	Systematic, long-term
	Inhalation	106 mg/kg	Workers	Systematic, long-term
		35 mg/m ³	Workers	Local, long-term
		7 mg/m ³	Consumers	Local, short-term
Vinyl toluene	Inhalation	37 mg/m ³	Workers	Systematic, long-term
		37 mg/m ³	Workers	Local, long-term

PNECs

	Environmental protection target	Value
Dibenzoyl peroxide	Fresh water	0,602 µg/l
	Marine water	0,0602 µg/l
	Intermittent releases	0,602 µg/l
	Freshwater sediments	0,338 mg/kg
	Marine water sediments	0,0338 mg/kg
	STP	0,35 mg/l
Ethylene glycol	Soil	0,0758 mg/kg
	Fresh water	10 mg/l
	Marine water	1 mg/l
	Intermittent releases	10 mg/l
	Freshwater sediments	37 mg/kg
	Marine water sediments	3,7 mg/kg
Vinyl toluene	STP	199,5 mg/l
	Soil	1,53 mg/kg
	Fresh water	0,0498 mg/l
	Marine water	0,002 mg/l
	Intermittent releases	0,013 mg/l
	Freshwater sediments	0,684 mg/kg
	Marine water sediments	0,0684 mg/kg
	STP	1 mg/l
	Soil	0,133 mg/kg

8.2. Exposure controls

Appropriate engineering controls: Ensure sufficient ventilation in working place. In case of insufficient ventilation use appropriate engineering controls (e.g. local fume hood) which will keep exposure level below recommended threshold, or use appropriate breathing apparatus.

Individual protective measures:

General recommendation: Obey hygiene rules: do not eat, drink, or smoke at workplace. Wash your hands with soap and water after you finish working with product. Avoid contamination of your clothes. Contaminated clothes wash before use.

Eye/face protection: Use safety glasses with side shields.

Hand protection: Use chemical resistant gloves standard when working with the product. It is advised to use butyl or nitrile rubber gloves.

Skin and body protection: Use protective clothes.

Respiratory protection:	At concentrations causing irritation use mask, filter type: A – against organic gases and vapours.
Remarks:	Advice on personal protection is applicable for high exposure levels. Select proper personal protection based on a risk assessment of the actual situation. Personal protective equipment must meet requirements of directive 89/686/CE.

Environmental exposure controls:

Do not allow to contaminate soil, sewage and surface/ ground water. If the product contaminates waterways and drains, alert the relevant authorities.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:	paste
Color:	Component A – yellow, Component B – black, pink and grey
Odour:	Characteristic, ester-like
Odour threshold:	Not determined
pH:	Not determined
Melting point / freezing point:	Not applicable
Initial boiling point and boiling range:	component B: dibenzoyl peroxide: 197°C
Flash point:	Component A: 49 ⁰ C (PN-EN ISO 3679:2007)
Evaporation rate:	Not determined
Flammability (solid, gas):	Flammable
Upper/lower flammability or explosive limits:	Component A: not determined Component B: UEL = 53,0 % vol.; LEL = 3,2% vol.
Vapour pressure:	Not applicable (product is in solid state)
Relative density:	Component A: 1,52 ± 0,05 [g/cm ³] Component B: 1,21 ± 0,05 [g/cm ³](PN-EN 542:2005)
Solubility:	Insoluble in water, partly soluble in acetone and isopropyl alcohol
Partition coefficient n-octanol/water:	Not determined
Auto-ignition temperature:	Product is not self-igniting
Decomposition temperature:	Component A: no data Component B: SADT = 50°C
Dynamic viscosity (23 ⁰ C; 100 [s ⁻¹]):	Component A: 12,5 ± 1,5 [Pa·s] Component B: 8,5 ± 1,0 [Pa·s] (EN ISO 3219:2000)
Explosive properties:	Product is not explosive
Oxidizing properties:	Component A: not applicable Component B: oxidizing properties

9.2. Other information No additional data

Section 10: Stability and reactivity

10.1. Reactivity

No specific data available

10.2. Chemical stability

Product is stable under normal storage conditions (temp. 5 - 25°C). In case of change of apparent consistency or presence of significant air amounts in components, it is advised to interrupt work with product and consult producer.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored under normal conditions of use.

10.4. Conditions to avoid

To avoid thermal degradation of product do not allow to overheat it over the temperature of recommended storage. Protect from sunlight. Overheating of B component over SADT temperature (Self Accelerating Decomposition Temperature, see section 9.1) can cause spontaneous decomposition of the substances in the packaging during transport.

10.5. Incompatible materials

No specific data

10.6. Hazardous decomposition products

Unidentified hydrocarbons, carbon oxides.

Section 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity Product is harmful if swallowed (based on available data for ingredients of the product)

Ingredient name	Route of exposure	Species	Result
Vinyl toluene	LD ₅₀ (oral)	rat	>5000 mg/kg
	LD ₅₀ (dermal)	rabbit	>5 mg/kg
Ethylene glycol	LD ₅₀ (oral)	rat	7712 mg/kg
	LD ₅₀ (dermal)	mouse	>3500 mg/kg
Dibenzoyl peroxide	LD ₅₀ (oral)	rat	>5000 mg/kg

Irritation / Corrosivity Product causes eye and skin irritation (based on available data for ingredients of the product)

Sensitisation Product causes skin sensitisation (based on available data for ingredients the product)

Ingredient name	Test	Species	Results	Effects
Dibenzoyl peroxide	LLNA	mouse	SI > 3	Skin Sens. 1

Repeated dose toxicity Based on available data, the classification criteria are not meet

CMR No specific data

Symptoms related to the physical, chemical and toxicological characteristics:

Inhalation: Vapours released during curing process may cause respiratory tract irritation, coughing, nausea and dizziness. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin exposure: Irritation and redness. May cause sensitization by skin contact. Skin reaction may be delayed in time.

Eye exposure: pain, lacrimation, irritation and redness

Ingestion: No specific data

Section 12: Ecological information

12.1. Toxicity

Ingredient name	Dose / time of exposure / method	Species	Results
Vinyl toluene	LC ₅₀ / 48h / OECD 202	<i>Daphnia magna</i>	1,3 mg/L
	EC ₅₀ (growth rate) / 72h / OECD 201	<i>Pseudokirchnerella subcapitata</i>	2,6 mg/L
Ethylene glycol	LC ₅₀ / 96h / bd	<i>Pimephales promelas</i>	72860 mg/L
	EC ₅₀ / 48h / OECD 202	<i>Daphnia magna</i>	>=100 mg/L
Dibenzoyl peroxide	LC ₅₀ / 96h / OECD 203	<i>Oncorhynchus mykiss</i>	0,0602 mg/L
	EC ₅₀ / 48h / OECD 202	<i>Daphnia magna</i>	0,110 mg/L
	EC ₅₀ (growth rate) / 72h / OECD 201	<i>Pseudokirchnerella subcapitata</i>	0,0711 mg/L

12.2. Persistence and degradability

Vinyl toluene Readily biodegradable

Ethylene glycol Degr. 90-100% after 10 days (parameter DOC). Readily biodegradable (OECD 301 A)

Dibenzoyl peroxide Degr. 68% after 28 days. Readily biodegradable (OECD 301 D)

12.3. Bioaccumulative potential

Vinyl toluene BCF = 4,9

Dibenzoyl peroxide log K_{ow} = 3,2

12.4. Mobility in soil

Dibenzoyl peroxide log K_{oc} = 3,8 (OECD 121)

12.5. Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6. Other adverse effects

No reports on other adverse effects

Section 13: Disposal considerations

13.1. Waste treatment methods

Product: Minimum waste quantities. Must not be disposed together with household garbage. Do not allow product to reach sewage system, ground water and water course. Uncured product dispose of as a chemical waste in licensed facility, in accordance with local regulations of environmental protection and binding legislation on recycling. It is recommended to incinerate wastes arose during product usage in a proper incineration oven. Small quantities of both components may be reacted together, allowed to cure and dispose of as a solid waste.

Packaging: Used product packaging (cartridge) may be delivered to plastic waste recycling plant. Contaminated package must be disposed like wastes arose during product usage.

European Waste Code: 08 04 09* – Waste adhesives and sealants containing organic solvents or other dangerous substances. 16 09 03* – Peroxides

Legal basis: Council Directive 2008/98/EC on waste and European Parliament and Council Directive 94/62/EC on packaging and packaging waste. Regulation (EC) No 1013/2006 of 14 June 2006 on shipments of waste.

Section 14: Transport information

	Land transport ADR /RID	Maritime transport IMDG	Air transport IATA
14.1. UN number	UN 3269	UN 3269	UN 3269
14.2. UN proper shipping name	POLYESTER RESIN KIT	POLYESTER RESIN KIT	POLYESTER RESIN KIT
14.3. Transport hazard class(es)	3	3	3
	In road transport it is required to use PSN in language of country of origin and also in one of the following : English, French and German. In maritime transport it is preferable to use English. In air transport English is obligatory.		
14.4. Packing group	III	III	III
Label number:	3 	3 	3 Flammable Liquids 
Packaging instruction:	P302	P302	<u>Passenger and cargo aircraft:</u> - Ltd Qty (Pkg Inst.: Y960; Max Net Qty/Pkg: 1kg); -Pkg Inst.: 960; Max Net Qty/Pkg: 10kg <u>Cargo aircraft only:</u> -Pkg Inst.: 960; Max Net Qty/Pkg: 10kg
Limited quantities (LQ):	5L 	5L 	1kg 
Excepted quantities:	E 0 Note: Based on special provision 340 excepted quantities which do not exceed the quantity limits for excepted quantities applicable to UN 1866 may be transported in accordance with regulations of E 2 code.	E 0 Note: Based on special provision 340 excepted quantities which do not exceed the quantity limits for excepted quantities applicable to UN 1866 may be transported in accordance with regulations of E 2 code.	E 0 Note: Based on special provision 340 excepted quantities which do not exceed the quantity limits for excepted quantities applicable to UN 1866 may be transported in accordance with regulations of E 2 code.
Transport category:	3	3 (transport multimodal only)	3 (transport multimodal only)
Tunnel restriction code:	E	3 (transport multimodal only)	3 (transport multimodal only)
Special provisions:	236, 340	236, 340	A 163
Storage and segregation:	Not applicable	Category A	Not applicable
EmS:	Not applicable	F-A, S-P	Not applicable
ERG:	Not applicable	Not applicable	5L
14.5. Environmental hazards	Not applicable	Not applicable	Not applicable
14.6. Special precautions for use	No specific data	No specific data	No specific data
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable	Not applicable	Not applicable

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation for the substance or mixture

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

Regulation (EC) No 1272/2008 of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC and amending regulation (EC) No 1907/2006 (text with EEA relevance).

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) (text with EEA relevance).

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste.

Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste.

Commission Regulation (EC) No. 790/2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No. 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.

Council Directive 89/686/EEC of 21 December 1989 on the approximation of the laws of the Member States relating to personal protective equipment (and its amendments).

15.2. Chemical safety assessment

Not applicable

Section 16: Other information

Full text of H-statements:	H241	Heating may cause a fire or explosion
	H242	Heating may cause a fire
	H302	Harmful if swallowed
	H304	May be fatal if swallowed and enters airways
	H315	Causes skin irritation
	H317	May cause an allergic skin reaction
	H319	Causes serious eye irritation
	H332	Harmful if inhaled
	H373	May cause damage to organs through prolonged or repeated exposure
	H400	Very toxic to aquatic life
	EUH208	Contains dibenzoyl peroxide. May produce an allergic reaction

Hazard class:	Acute Tox. 4	Acute toxicity category 4
	Flam. Liq. 3	Flammable Liquid 3
	Eye Irrit. 2	Eye irritation category 2
	Skin Irrit. 2	Skin irritant category 2
	Skin Sens. 1	Skin sensitization category 1
	STOT RE 2	Specific target organ toxicity – Repeated exposure – category 2
	Aquatic Acute 1	Aquatic acute category 1
	Org. Perox. B	Organic peroxide category B
	Org. Perox. E	Organic peroxide category E

Acronyms and abbreviations

DNEL	Derived no-effect level
PBT	Persistent, bioaccumulative and toxicity substances
vPvB	Very persistent and very bioaccumulative substances
SADT	Self-accelerating decomposition temperature

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) No 1272/2008	Classification procedure
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
Skin Irrit. 2, H315	Calculation method
Aquatic Acute 1, H400	Calculation method
Flam. Liq. 3, H226	On basis of test data
Org. Perox. E	On basis of test data

Alterations compared to the previous version
Training advice

Sections and subsections where changes have been made to the previous version of the safety data sheet: 2, 3, 8-12, 14, 15, 16.

People using the product professionally, should be trained in handling the product, safety and hygiene. Drivers should be trained and obtain the appropriate certificate in accordance with the ADR requirements.

The information contained in the Safety Data Sheet is based on current state of knowledge and applies to product with its identified use. The information is intended to aid the user in controlling the handling risks and not to guarantee product quality. If conditions of product use are not under manufacturer control, responsibility for safe use falls to the user. Employer is obliged to inform all employees working with the product, about possible hazards and personal protection specified in Safety Data Sheet.

	<h1 style="margin: 0;">COSHH Risk Assessment for No: Adblue</h1>	COSHH NO: 012	
Describe the activity or work process. <i>(Include how long and how often this is carried out and the quantity of substance used)</i>	The product is a NO _x -gases reduction agent used I the selective catalytic reduction in motor vehicle/plant with a diesel engine.		
Location of process being carried out?	On construction site or in the yard.		
Identify the persons at risk:	Employees ☒ (including trainees)	Contractors ☐	
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet for this substance should be attached to this assessment)</i>	GreenChem AdBlue		
Classification (state the category of danger)			
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%; text-align: center;">  ☐ Acute toxicity Cat 1-3 </div> <div style="width: 33%; text-align: center;">  ☐ Serious health hazard </div> <div style="width: 33%; text-align: center;">  ☐ Aquatic Environment </div> <div style="width: 33%; text-align: center;">  ☒ Acute toxicity (cat 4) </div> <div style="width: 33%; text-align: center;">  ☐ Flammable </div> <div style="width: 33%; text-align: center;">  ☐ Explosive </div> <div style="width: 33%; text-align: center;">  ☐ Corrosive </div> <div style="width: 33%; text-align: center;">  ☐ Oxidising </div> <div style="width: 33%; text-align: center;">  ☐ Gas under pressure </div> </div>			
Hazard Type			
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div>☐</div> <div>☐</div> <div>☐</div> <div>☐</div> <div>☐</div> <div>☒</div> <div>☐</div> <div>☐</div> </div> <div style="display: flex; justify-content: space-around; font-size: small;"> Gas Vapour Mist Fume Dust Liquid Solid Other (State) </div>			
Route of Exposure			
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div>☒</div> <div>☒</div> <div>☒</div> <div>☒</div> <div>☐</div> </div> <div style="display: flex; justify-content: space-around; font-size: small;"> Inhalation Skin Eyes Ingestion Other (State) </div>			
Physical and Chemical Properties			
Colour:	Clear Liquid colorless	Odour:	Possibly slightly ammonia
pH value::	Max. 10	Initial Boiling Point & Range:	103°C
Flash Point:	N/A	Upper/Lower Flammability or Exploive	N/A
Vapour Pressure:	N/A	Vapour Density:	N/A
Relative Density	1 087-1 093kg/m³ [20°C/ 68°F]	Solubility:	Easily miscible.
Auto-ignition Temperature:	N/A	Viscosity:	N/A

State the Risks to Health from Identified Hazards			
Inhalation: May cause irritation. Skin: May cause skin irritation. Eyes: May cause eye irritation. Ingestion: May cause irritation.			
Control Measures: (for example extraction, ventilation, training, supervision).			
Inhalation: Wear appropriate respirator when working in a confined space Skin: Use protective gloves. Put on suitable protective clothes and footwear. Eyes: Wear safety glasses or goggles when using the substance. Ingestion: Wash hands, forarms and face thoroughly after handling.			
Is health surveillance or monitoring required? <div style="float: right;"> Yes ☐ No ☒ </div>			
Personal Protective Equipment (state type and standard)			
 ☐ Dust mask		 ☐ Visor	
 ☐ Respirator		 ☒ Goggles	
 ☒ Gloves		 ☒ Overalls	
 ☐ Footwear		 ☐ Other	
First Aid Measures			
Inhalation: Remove from exposure. In severe cases seek medical attention. Skin: Wash contaminated skin with soap and warm water. Remove contaminated clothing and footwear. If irritation persists seek medical attention. Eyes: Irrigate thoroughly with water for at least 10 minutes. Obtain medical attention. Ingestion: Wash out mouth with water. Do not induce vomiting. If patient feels unwell seek medical attention.			
Storage			
Keep in closed, labelled containers as purchased. Directions on labels should be read and followed.			
Disposal of Substances & Contaminated Containers			
Hazardous Waste ☐ Skip ☒ Return to Depot ☐ Return to Supplier ☐ Other ☐			
(If Other Please State):			

Is exposure adequately controlled?	Yes ☒ No ☐			
Assessment Approval:				
Revision:	Name:	Position:	Date:	Review Date:
A	C Newman	HSQE & Operation Manager	18.06.2021	17.06.2022
B	C Newman	HSQE & Operation Manager	04.05.2022	03.05.2023



AdBlue[®]4you

SAFETY DATA SHEET

According to Regulation (EC) No. 2015/830

AdBlue[®] - NOx reduction agent AUS 32 for diesel engines with respect to ISO 22241 requirements.

SECTION 1: Identification of the substance/ mixture and of the company/ undertaking
--

1.1 Product identifier

Product identifier : Water solution of urea, AUS 32

Registration number REACH : **01-2119463277-33-0018**

Trade name : AdBlue[®]

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : The product is a NOx-gases reduction agent used in the selective catalytic reduction (SCR) in motor vehicles with a diesel engine.
Additive for reduction of NOx emission from diesel engine exhausts.

Unidentified uses : None known.

1.3 Details of the supplier of the safety data sheet

Supplier : GreenChem Holding BV
Gravinnen van Nassauboulevard 95
4811 BN BREDA - The Netherlands
Tel. +31 (0)76 – 581 27 27
[e-mail: info@greenchem-adblue.com](mailto:info@greenchem-adblue.com)



1.4 Emergency Telephone Numbers

National toxicological Information

Centre : +31 030 – 274 8888

National emergency number : 112 (24 hour service) – applicable to EU countries only.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Substance is not classified as dangerous according to regulation (EC) 1272/2008 of the European parliament and of the council, on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC and amending Regulation (EC) No 1907/2006.

Risk identification : None

2.2 Label elements : None

2.3 Other hazards : No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Classification:						
	CAS:	EC:	Category:	H-phrases:	Pictogram:	Content (%)
<i>Urea</i>						
	57-13-6	200-315-5	--	--	--	32,5

Name and REACH registration

Number : Aqueous urea (32.5%) solution
01-2119463277-33-0018

3.2 Mixtures

The substance is not a mixture of more substances.



SECTION 4: First aid measures

4.1 Description of first aid measures

General	:	Move victim to a safe area. If unconscious, place in recovery position and seek medical advice. No action shall be taken involving any personal risk or without suitable training. Actions shall be taken by certificated and trained personal.
Eye contact	:	Irrigate thoroughly with water for at least 10 minutes. Obtain medical attention.
Skin contact	:	Wash contaminated skin with soap and warm water. Remove contaminated clothing and shoes. If irritation persists seek medical attention.
Inhalation	:	Remove from exposure. In severe cases, or if recovery is not rapid or complete seek medical attention.
Ingestion	:	Wash out mouth with water. Do not induce vomiting. If patient is conscious, give water to drink. If patient feels unwell seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

: No information available.

4.3 Indication of any immediate medical attention and special treatment needed

: Instructions for medical personnel: treat symptomatically. Clinical tests and medical observations of delayed effects are not available. Antibodies and counter-indications are not known.



SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Urea solution has not flammable properties.

Suitable extinguishing media : Extinguishing media select in relation to surrounding fire.

Unsuitable extinguishing media : Combustible material and extinguishing media that cannot be used in relation to surrounding fire.

5.2 Special hazards arising from the substance or mixture

: When AdBlue is stored in a GreenChem tank system and a fire or extreme heat threatens the system, a pressure increase will occur and the container may burst. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Always follow directions in applicable emergency plans.

Hazardous combustion products : Combustion products may include the following materials: Carbon Oxides, Nitrogen Oxides, and Ammonia.

5.3 Advice for firefighters : Irritating substances may be emitted upon thermal combustion so self-contained breathing apparatus will be required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

: Wear suitable protective clothing. Avoid contact with eyes, skin and clothing. Contamination does not rise. Flush the residues down into the sewage and drainage



- system leading to waste treatment plant in a controlled manner.
- 6.2 Environmental precautions : Prevent large quantities from contacting soil, waterways and sewerage. Report contamination. Keep animals away from large spills. The product is not classified as hazardous for environment.
- 6.3 Methods and material for containment and cleaning up : Spilled product must be swept up and place into approved containers for later disposal. Eventually flush contaminated place with plenty of water. If needed contaminated earth must be evacuated. Dispose of the waste in compliance with Section 13.
- 6.4 Reference of other sections : For more information on protective equipment see section 8. For more information on the disposal of waste substance, see section 13.

SECTION 7: Handling and storage

Handling and storage is only done with respect to ISO 22241-3 requirements.

- 7.1 Precautions for safe handling : Ensure sufficient local ventilation by handling. Avoid contact of product with eyes, skin and clothing by wearing suitable personal protective clothing. Avoid breathing vapor or mist. Ensure eyewash facilities are located close to the working environment.
- 7.2 Condition for safe storage, including any incompatibilities : Store under cool dry conditions. Transported in insulated tank wagons, palletized plastic tanks (IBC) or HDPE drums and cans. Materials suitable for these tanks are alloy steels, various plastics, as well as metal tanks with plastic coating. Plain carbon steel, copper, aluminum, alloys containing copper



and aluminum, galvanized steels must not be used.

7.3 Specific end use(s) : Specific use is given in the instructions for use on the product packaging label or in the product documentation.

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters

Exposure limit values according to Directive 200/39/EC, as amended – are not specified.

Limit values of biological exposure tests indicators are not specified in Directive no. 98/24/EC, as amended.

DNEL values :

Workers - Hazard via inhalation route
Long term exposure & acute/short term exposure.
DNEL: 292 mg/m³

Workers - Hazard via dermal route
Long term exposure & acute/short term exposure.
DNEL: 580 mg/kg bw/day

General Population - Hazard via inhalation route
Long term exposure & acute/short term exposure.
DNEL: 125 mg/m³

General Population - Hazard via dermal route
Long term exposure & acute/short term exposure.
DNEL: 580 mg/kg bw/day

General Population – Hazard via oral route
Long term exposure & acute/short term exposure.



DNEL: 42 mg/kg bw/day

PNEC values : Hazard for aquatic organisms
Freshwater
PNEC aqua (freshwater)
0.047 mg/L

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Provide sufficient ventilation.

8.2.2 Individual protection measures, such as personnel protective equipment:

Directive EU 89/656/EEC and Directive EU 89/686/EEC introduces all personal protective equipment used.

Eye/face protection	:	Protective goggles (EN 166)
Skin protection	:	Put on suitable protective clothes (EN 340) and shoes. Wash hands, forearms and face thoroughly after handling chemical products, before eating/smoking and using the lavatory and at the end of every working period.
Hand protection	:	Use suitable protective gloves. Selection of a suitable glove material, consult the supplier of gloves. (EN 374)
Other	:	Put on suitable protective clothes and shoes.
Respiratory protection	:	Wear appropriate respirator when ventilation is inadequate. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapor filter (Type A), ammonia filter (Type K).
Thermal hazards	:	Information is not available.



8.2.3 Environmental exposure

Controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. See directives 80/68/EEC, and Directive 96/62/EEC, on air.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance	:	Clear liquid
Granulomere	:	Not relevant
Physical state	:	Liquid
Color	:	Colorless
Odor	:	Possibly slightly ammonia
Odor threshold	:	No information available

Safety data

PH-value	:	max. 10(Value of a 10%water solution)
Viscosity, dynamic	:	±1, 4mPa.s at 25°C

Relative density	:	1 087-1 093 k g/ m ³ (20°C/ 68°F)
Melting point	:	-11, 5°C (11, 3°F)
Boiling point	:	103°C (217, 4°F) 100°C: decomposition temperature
Water solubility	:	Easily miscible

9.2 Other information:

Molecular weight	:	60, 06 kg/kmol
Thermal conductivity (at 25 °C)	:	cca 0, 570 W/m.K
Specific heat (at 25 °C)	:	cca 3, 40 kJ/ kg.K
Surface tension (at 20 °C)	:	min. 65 mN/m
Refractive index at 20 °C	:	1, 3814 – 1, 3843



Crystallization point : -11, 5 °C

SECTION 10: Stability and reactivity

- | | | |
|--|---|---|
| 10.1 Reactivity | : | Stable under recommended storage and handling conditions (see sections 7, handling and storage). |
| 10.2. Chemical stability | : | Stable under recommended storage and handling conditions (see section 7, handling and storage) |
| 10.3. Possibility of hazardous reactions | : | When heated, decomposition of products. Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| 10.4. Conditions to avoid | : | Heating causes thermal decomposition and the gases formation. |
| 10.5. Incompatible materials | : | Not known |
| 10.6. Hazardous decomposition products | : | NO _x , NH ₃ , CO ₂
Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

SECTION 11: Toxicological information

11.1. Information on toxicological effects

- | | | |
|--------------------------------|---|---|
| Acute toxicity | : | Oral (rat) LD ₅₀ >2000 mg/kg
Based on available data, the classification criteria are not met. |
| Skin corrosion/ irritation | : | Skin irritation (rabbit): short term irritation - not harmful.
Based on available data, the classification criteria are not met. |
| Serious eye damage/ irritation | : | Eyes irritation (rabbit): slightly harmful.
Based on available data, the classification criteria are not met. |



Respiratory or skin sensitization	:	Repeated and long – lasted contact with skin may cause sensitization. Based on available data, the classification criteria are not met.
Germ cell mutagenicity	:	Based on available data, the classification criteria are not met.
Carcinogenicity	:	Based on available data, the classification criteria are not met.
Reproductive toxicity	:	Based on available data, the classification criteria are not met.
STOT – single exposure	:	Based on available data, the classification criteria are not met.
STOT – repeated exposure	:	Based on available data, the classification criteria are not met.
Aspiration hazard	:	Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity	:	The product is not classified as hazardous for environment.
12.2. Persistence and degradability:		Significant biodegradation in water and soil.
12.3. Bioaccumulative potential	:	Low bioaccumulation potential.
12.4. Mobility in soil	:	No information available.
12.5. Results of PBT and vPvB assessment	:	Based on the PBT and vPvB assessment the substance is not a PBT / vPvB substance.
12.6. Other adverse effects	:	No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods	:	Depending on the degree and character of contamination use for agricultural purposes or dispose of under control by authorized waste disposal contractors. Empty container damaged during using must be stored at the designed place and disposed of in a
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solid waste incineration plant. Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU directive 91/689/EEC.

SECTION 14: Transport information

Product is not classified, i.e. is not regarded as a dangerous material according to the Orange Book of UNO and international codes of transport, e.g. RID (railway), ADR (road transport) and IMDG (sea transport).

- | | | |
|--|---|--|
| 14.1. UN number | : | Not subject to provisions. |
| 14.2. UN proper shipping name | : | Not subject to provisions. |
| 14.3. Transport hazard class (es) | : | Not subject to provisions. |
| 14.4. Packing group | : | Not subject to provisions. |
| 14.5. Environmental hazards | : | AdBlue is not classified as environmentally hazardous substance according to the ADR/RID/IMDG Code. |
| 14.6. Special precautions for user | : | Transported in insulated tank trucks or palletized plastic tanks (IBC). Material suitable for these tanks are alloy steels, various plastics, as well as metal tanks with plastic coating copper and aluminum, galvanized steels must not be used. |
| 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code | : | Not known |

SECTION 15: Regulatory information

- | | | |
|---|---|---|
| 15.1. Safety, health and environmental regulations/ legislation specific for the substance or mixture | : | Corrigendum to Regulation (EC) No 1907/2006 of the European Parliament and of the Council 18 of December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals |
|---|---|---|



(REACH).

Regulations (EC) No 1272/2008 of the European parliament and of the Council 16 of December 2008 on classification, labeling and packaging of sub- stances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC and amending Regulation (EC) No 1907/2006.

Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). Decree No 355/2006 Coll. of the Government of the Slovak Republic on health protection of employees against occupational risks related to the exposition to chemical factors and as amended;

CLP-regulations : According to Regulations (EC) No 1272/2008 of the European parliament and of the Council 16 of December 2008 on classification, labeling and packaging of sub stances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC and amending Regulation (EC) No 1907/2006.

15.2. Chemical safety assessment : Chemical safety assessment was carried out.

SECTION 16: Other information

16.1. Used information sources : Available information from Duslo Company, European Chemicals Agency (ECHA) and ISO 22241 part 1 to 5.

16.2. Instructions for the training : Instructions in work with product shall be included into the educational system about the safety work (initial training, training at



		the workplace, repeated training) according to concrete conditions at the workplace.
16.3. List of relevant H phrases	:	H- phrases: None
16.4. Change made in the revision	:	--
16.5. Other information	:	Legend to abbreviations and acronyms

CAS	–	Chemical Abstract Service
EC	–	European Community number of a chemical for EINECS, ELINCS and NLP inventories
PBT	–	Persistent, Bioaccumulative and Toxic substances.
vPvB	–	Very Persistent and very Bioaccumulative substances.
LD ₅₀	–	Lethal dose, 50%
LC ₅₀	–	Lethal concentration, 50%
EC ₅₀	–	Hal maximal effective concentration
IC ₅₀	–	Half maximal inhibitory concentration
SVHC	–	Substances of very high concern
DNEL	–	Derived no-effect level

History

Date of issue	:	01-01-2017
Previous date	:	31-10-2016
Version	:	11

The data corresponds to our current knowledge and describes our product with regard to safety requirements. All materials may represent unknown hazards and should be used with caution.

GreenChem Holding BV disclaims any liability for loss or damage resulting from the use of any data, information or recommendations set out in this Safety Data Sheet.



COSHH Risk Assessment for No: pH Blue

COSHH NO: 013

Describe the activity or work process. <i>(Include how long and how often this is carried out and the quantity of substance used)</i>	Used to reduce the alkaline levels in wash out water contaminated with concrete.		
Location of process being carried out?	On site locations.		
Identify the persons at risk:	Employees <i>(including trainees)</i> ☒	Contractors ☐	Public <i>(including students)</i> ☐
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet for this substance should be attached to this assessment)</i>	Morrison Mud make the liquid. Safety data sheet attached.		

Classification *(state the category of danger)*

 ☐ Acute toxicity Cat 1-3	 ☒ Serious health hazard	 ☐ Aquatic Environment
 ☐ Acute toxicity (cat 4)	 ☐ Flammable	 ☐ Explosive
 ☐ Corrosive	 ☐ Oxidising	 ☐ Gas under pressure

Hazard Type

☐	☐	☐	☐	☐	☒	☐	☐
Gas	Vapour	Mist	Fume	Dust	Liquid	Solid	Other (State)

Route of Exposure

☐	☒	☒	☐	☐
Inhalation	Skin	Eyes	Ingestion	Other (State)

Physical and Chemical Properties

Colour:	Opaque light blue	Odour:	Barely perceptible odour
Melting Point:	N/A	Initial Boiling Point & Range:	100°
Flash Point:	N/A	Upper/Lower Flammability or Exploive	N/A
Vapour Pressure:	N/A	Vapour Density:	N/A
Relative Density	N/A	Solubility:	Soluble
Auto-ignition Temperature:	N/A	Viscosity:	N/A

State the Risks to Health from Identified Hazards			
Skin contact: There may be mild irritation at the site of contact. Eye contact: There may be irritation and redness. Ingestion: There may be irritation of the throat.			
Control Measures: (for example extraction, ventilation, training, supervision).			
Engineering measures: Ensure there is sufficient ventilation of the area. Respiratory protection: With normal ventilation and usage, respiratory protection is not required. Do not create and breath spray mist. If ventilation is insufficient, suitable respiratory protection must be provided. Hand protection: Protective gloves. Eye protection: Safety glasses with side-shields. Ensure eye bath is to hand. Skin protection: Protective clothing.			
Is health surveillance or monitoring required? <div style="float: right;"> Yes ☐ No ☒ </div>			
Personal Protective Equipment (state type and standard)			
 ☐ Dust mask		 ☐ Visor	
 ☐ Respirator		 ☒ X Goggles	
 ☒ X Gloves		 ☒ X Overalls	
 ☐ Footwear		 ☐ Other	
First Aid Measures			
Skin contact: Wash immediately with plenty of soap and water. If irritation persists, seek medical advice. Eye contact: Bathe the eye with running water for 15 minutes. Consult a doctor. Ingestion: Wash out mouth with water. Do not induce vomiting. Consult a doctor. Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.			
Storage			
Keep in closed, labelled containers as purchased. Directions on labels should be read and followed.			
Disposal of Substances & Contaminated Containers			
Hazardous Waste ☐ Skip ☒ X Return to Depot ☐ Return to Supplier ☐ Other ☐			
(If Other Please State):			

Is exposure adequately controlled?	Yes ☒ X No ☐			
Assessment Approval:				
Revision:	Name:	Position:	Date:	Review Date:
A	C Newman	HSQE & Operation Manager	18.06.2021	17.06.2022
B	C Newman	HSQE & Operation Manager	04.05.2022	03.05.2023

SAFETY DATA SHEET

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Page: 1

Compilation date: 05/03/2015

Revision date: 30/06/2017

Revision No: 2

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

1.2. Relevant identified uses of the substance or mixture and uses advised against

Product name: PH BLUE

Use of substance / mixture: Construction materials.

1.3. Details of the supplier of the safety data sheet

Company name: Mudtech Ltd

Wyburn House

1 Crab Lane

Stafford

Staffordshire

ST16 1SB

UK

Tel: +44 (0)1929 551245

Fax: +44 (0)1929 554361

Email: sales@mudtech.co.uk

1.4. Emergency telephone number

Emergency tel: CHEMTEL International: +1 813-248-0585; USA/Canada And Territories 800-255-3924

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: -: Non hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Most important adverse effects: Contains a biocide (methylchloroisothiazolinone & methylisothiazolinone). May produce an allergic reaction.

2.2. Label elements

Label elements:

Hazard statements: Non hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Supplemental information: Contains a biocide (methylchloroisothiazolinone & methylisothiazolinone) <15 ppm.
May produce an allergic reaction.

Precautionary statements: P280: Wear protective gloves/protective clothing/eye protection/face protection.

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

SAFETY DATA SHEET

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Section 3: Composition/information on ingredients

3.2. Mixtures

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Wash immediately with plenty of soap and water. If irritation persists seek medical advice.

Eye contact: Bathe the eye with running water for 15 minutes. Consult a doctor.

Ingestion: Wash out mouth with water. Do not induce vomiting. Consult a doctor.

Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: No symptoms.

Delayed / immediate effects: No symptoms.

4.3. Indication of any immediate medical attention and special treatment needed

Section 5: Fire-fighting measures

5.1. Extinguishing media

Immediate / special treatment: Eye bathing equipment should be available on the premises.

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Do not attempt to take action without suitable protective clothing - see section 8 of SDS.
Turn leaking containers leak-side up to prevent the escape of liquid. Avoid contact with the skin or eyes.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

[cont...]

SAFETY DATA SHEET

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6.3. Methods and material for containment and cleaning up

Clean-up procedures: Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS. Refer to section 13 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Avoid the formation or spread of mists in the air. Wash any exposed skin immediately after any chemical contact, before breaks and meals, and at the end of each work period. Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a cool, well ventilated area. Keep container tightly closed. Keep container upright

Suitable packaging: Must only be kept in original packaging.

7.3. Specific end use(s)

Section 8: Exposure controls/personal protection

8.1. Control parameters

Specific end use(s): No data available.

Workplace exposure limits: No data available.

DNEL/PNEC Values

8.2. Exposure controls

DNEL / PNEC No data available.

Engineering measures: Ensure there is sufficient ventilation of the area.

Respiratory protection: With normal ventilation and usage, respiratory protection is not required. Do not create and breath spray mist. If ventilation is insufficient, suitable respiratory protection must be provided.

Hand protection: Protective gloves.

Eye protection: Safety glasses with side-shields. Ensure eye bath is to hand.

Skin protection: Protective clothing.

Environmental: No special requirement.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

[cont...]

SAFETY DATA SHEET

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Colour: Opaque light blue

Odour: Barely perceptible odour

Evaporation rate: No data available.

Oxidising: Non-oxidising (by EC criteria)

Solubility in water: Soluble

Viscosity: No data available.

Boiling point/range°C: 100

Melting point/range°C: Not applicable.

Flammability limits %: lower: No data available.

upper: No data available.

Flash point°C: Not applicable.

Part.coeff. n-octanol/water: No data available.

Autoflammability°C: No data available.

Vapour pressure: Not applicable.

Relative density: 1.28

pH: 8

VOC g/l: No data available.

9.2. Other information

Section 10: Stability and reactivity

10.1. Reactivity

Other information: No data available.

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

10.3. Possibility of hazardous reactions

Chemical stability: Stable under normal conditions.

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions.

Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Conditions to avoid: Heat.

10.5. Incompatible materials

10.6. Hazardous decomposition products

Materials to avoid: Strong oxidising agents. Strong acids.

Haz. decomp. products: In combustion emits toxic fumes.

Section 11: Toxicological information

11.1. Information on toxicological effects

Excluded hazards for substance:

Hazard	Route	Basis
--------	-------	-------

[cont...]

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Acute toxicity (ac. tox. 4)	-	No hazard: calculated
Acute toxicity (ac. tox. 3)	-	No hazard: calculated
Acute toxicity (ac. tox. 2)	-	No hazard: calculated
Acute toxicity (ac. tox. 1)	-	No hazard: calculated
Skin corrosion/irritation	-	No hazard: calculated
Serious eye damage/irritation	-	No hazard: calculated
Respiratory/skin sensitisation	-	No hazard: calculated
Germ cell mutagenicity	-	No hazard: calculated
Carcinogenicity	-	No hazard: calculated
Reproductive toxicity	-	No hazard: calculated
STOT-single exposure	-	No hazard: calculated
STOT-repeated exposure	-	No hazard: calculated
Aspiration hazard	-	No hazard: calculated

Symptoms / routes of exposure

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: No symptoms.

Delayed / immediate effects: No symptoms.

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values:

Species	Test	Value	Units
Daphnia magna	48H EC50	7500	mg/l

12.2. Persistence and degradability

Persistence and degradability: No data available.

12.3. Bioaccumulative potential

12.4. Mobility in soil

Bioaccumulative potential: Not applicable.

Mobility: Readily absorbed into soil.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

PBT identification: This product is not identified as a PBT/vPvB substance.

Other adverse effects: Not applicable.

[cont...]

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Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Dispose of according to national/ local regulations

Disposal of packaging: Dispose of as normal industrial waste.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

Transport class: This product does not require a classification for transport.

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.2. Chemical Safety Assessment

Specific regulations: Not applicable.

Chemical safety assessment: A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16: Other information

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 2015/830.

This safety data sheet is prepared in accordance with Commission Regulation (EC) No 1272/2008.

Preservative agents contain sensitizing substances with a specific limit for classification are subject to the 2nd amendment of regulation (EG) No. 1272/2008 for labelling.

These agents are present in a very wide range of personal care and industrial chemicals, to prevent the growth of microorganisms (bacteria, fungi and spore).

The use of the lowest possible amount of preservative agents - in the case of this product less than 15 parts per million - maintains the product performance and ensures long usability and storing stability.

In addition, hygienically clean products protect the health of persons handling them.

Phrases used in s.2 and s.3: EUH208: Contains <name of sensitising substance>. May produce an allergic reaction.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

	<h1 style="margin: 0;">COSHH Risk Assessment for No: Marker Paint</h1>	COSHH NO: 14																
Describe the activity or work process. <i>(Include how long and how often this is carried out and the quantity of substance used)</i>	Used to highlight items on the ground which could cause a hazard.																	
Location of process being carried out?	On site locations																	
Identify the persons at risk:	Employees ☒ <i>(including trainees)</i>	Contractors ☐ Public ☐ <i>(including students)</i>																
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet for this substance should be attached to this assessment)</i>	ACETONE, BUTYL ACETATE -norm, SOLVENT NAPHTHA, LIGHT AROMATIC BENZENE, 1,2,4-TRIMETHYLBENZENE, CUMENE, MESITYLENE See Safety Data sheet attached																	
Classification (state the category of danger)																		
<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;">  ☐ Acute toxicity Cat 1-3  ☒ Acute toxicity (cat 4)  ☐ Corrosive </td> <td style="width: 33%; vertical-align: top;">  ☐ Serious health hazard  ☒ Flammable  ☐ Oxidising </td> <td style="width: 33%; vertical-align: top;">  ☒ Aquatic Environment  ☐ Explosive  ☐ Gas under pressure </td> </tr> </table>			 ☐ Acute toxicity Cat 1-3  ☒ Acute toxicity (cat 4)  ☐ Corrosive	 ☐ Serious health hazard  ☒ Flammable  ☐ Oxidising	 ☒ Aquatic Environment  ☐ Explosive  ☐ Gas under pressure													
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Hazard Type																		
<table style="width: 100%; border: none;"> <tr> <td style="width: 12.5%; text-align: center;">☒</td> <td style="width: 12.5%; text-align: center;">☐</td> <td style="width: 12.5%; text-align: center;">☐</td> <td style="width: 12.5%; text-align: center;">☐</td> <td style="width: 12.5%; text-align: center;">☐</td> <td style="width: 12.5%; text-align: center;">☐</td> <td style="width: 12.5%; text-align: center;">☐</td> <td style="width: 12.5%; text-align: center;">☒</td> </tr> <tr> <td style="text-align: center;">Gas</td> <td style="text-align: center;">Vapour</td> <td style="text-align: center;">Mist</td> <td style="text-align: center;">Fume</td> <td style="text-align: center;">Dust</td> <td style="text-align: center;">Liquid</td> <td style="text-align: center;">Solid</td> <td style="text-align: center;">Other (State) Aerosol</td> </tr> </table>			☒	☐	☐	☐	☐	☐	☐	☒	Gas	Vapour	Mist	Fume	Dust	Liquid	Solid	Other (State) Aerosol
☒	☐	☐	☐	☐	☐	☐	☒											
Gas	Vapour	Mist	Fume	Dust	Liquid	Solid	Other (State) Aerosol											
Route of Exposure																		
<table style="width: 100%; border: none;"> <tr> <td style="width: 25%; text-align: center;">☐</td> <td style="width: 25%; text-align: center;">☐</td> <td style="width: 25%; text-align: center;">☒</td> <td style="width: 25%; text-align: center;">☐</td> </tr> <tr> <td style="text-align: center;">Inhalation</td> <td style="text-align: center;">Skin</td> <td style="text-align: center;">Eyes</td> <td style="text-align: center;">Ingestion</td> </tr> <tr> <td colspan="4" style="text-align: center;">Other (State)</td> </tr> </table>			☐	☐	☒	☐	Inhalation	Skin	Eyes	Ingestion	Other (State)							
☐	☐	☒	☐															
Inhalation	Skin	Eyes	Ingestion															
Other (State)																		
Physical and Chemical Properties																		
Colour:	Variable	Odour:	Organic solvents															
Melting Point:	N/A	Initial Boiling Point & Range:	N/A															
Flash Point:	The Propellant has a flash point of <-60°C with flammability limits of 10.9% vol. upper and 1.4% vol. lower	Upper/Lower Flammability or Exploive	N/A															
Vapour Pressure:	4.5 Bar @20°C	Vapour Density:	N/A															
Relative Density	1.25-1.35 @ 20°C Density of paint base	Solubility:	Partially soluble in water															

Auto-ignition Temperature:	No Data	Viscosity:	N/A
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State the Risks to Health from Identified Hazards

Extremely flammable, keep away from heat sources. May causes severe eye irritation and vapours may cause drowsiness and dizziness.

Control Measures: (for example extraction, ventilation, training, supervision).

Use in well ventilated areas.

Is health surveillance or monitoring required?

Yes ☐ No ☒

Personal Protective Equipment (state type and standard)

 ☐		 ☐	
Dust mask		Visor	
 ☐		 ☒	Safety eyewear. European Standard EN166.
Respirator		Goggles	
 ☒	Chemical-resistant, impervious gloves	 ☒	
Gloves		Overalls	
 ☒		 ☐	
Footwear		Other	

First Aid Measures

Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Remove any contact lenses and open eyelids wide apart. Get medical attention immediately. Continue to rinse.
Move affected person to fresh air at once. If breathing stops, provide artificial respiration. Keep affected person warm and at rest. Get medical attention immediately.

Storage

Keep in closed, labelled containers as purchased. Directions on labels should be read and followed.

Disposal of Substances & Contaminated Containers

Hazardous Waste ☐ Skip ☐ Return to Depot ☒ Return to Supplier ☐ Other ☐

(If Other Please State):

Is exposure adequately controlled?	Yes ☒ No ☐
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Assessment Approval:

Revision:	Name:	Position:	Date:	Review Date:
A	C Newman	HSQE & Operation Manager	28.11.24	27.11.25



SAFETY DATA SHEET

Lapwing Orbit Linemarker (All Colours)

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name Lapwing Orbit Linemarker (All Colours)

Container size 750ml

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Marker Paint

1.3. Details of the supplier of the safety data sheet

Supplier Lapwing UK
New Road
Pershore
WR10 1BY
01386 551088
sales@lapwinguk.com

1.4. Emergency telephone number

Emergency telephone Lapwing +44(0) 1386 551088 Mon-Fri (9:00-17:00)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Aerosol 1 - H222, H229

Health hazards Eye Irrit. 2 - H319 STOT SE 3 - H336 Asp. Tox. 1 - H304

Environmental hazards Aquatic Chronic 3 - H412

2.2. Label elements

Pictogram



Signal word Danger

Hazard statements
H222 Extremely flammable aerosol.
H229 Pressurised container: may burst if heated.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.

Lapwing Orbit Linemarker (All Colours)

Precautionary statements	P102 Keep out of reach of children.
	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P211 Do not spray on an open flame or other ignition source.
	P251 Do not pierce or burn, even after use.
	P271 Use only outdoors or in a well-ventilated area.
	P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
	P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P312 Call a POISON CENTRE/doctor if you feel unwell.
	P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
	P501 Dispose of contents/ container in accordance with national regulations.
Supplemental label information	EUH066 Repeated exposure may cause skin dryness or cracking.
Contains	ACETONE, BUTYL ACETATE -norm, SOLVENT NAPHTHA, LIGHT AROMATIC <0.1% BENZENE, 1,2,4-TRIMETHYLBENZENE, CUMENE, MESITYLENE

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

PETROLEUM GASES, LIQUEFIED; PETROLEUM GAS			30-60%
<0.1% 1,3 BUTADIENE			
CAS number: 68476-85-7		EC number: 270-704-2	
Classification Flam. Gas 1 - H220 Press. Gas (Liq.) - H280			
ACETONE			10-30%
CAS number: 67-64-1		EC number: 200-662-2	REACH registration number: 01-2119471330-49-XXXX
Classification Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT SE 3 - H336			
SOLVENT NAPHTHA, LIGHT AROMATIC <0.1% BENZENE			5-10%
CAS number: 64742-95-6		EC number: 265-199-0	REACH registration number: 01-2119455851-35-XXXX
Classification Flam. Liq. 3 - H226 STOT SE 3 - H335 Asp. Tox. 1 - H304 Aquatic Chronic 2 - H411			

Lapwing Orbit Linemarker (All Colours)

BUTYL ACETATE -norm			5-10%
CAS number: 123-86-4	EC number: 204-658-1	REACH registration number: 01-2119485493-29-XXXX	
Classification Flam. Liq. 3 - H226 STOT SE 3 - H336			

1,2,4-TRIMETHYLBENZENE			1-5%
CAS number: 95-63-6	EC number: 202-436-9	REACH registration number: 01-2119472135-42-XXXX	
Classification Flam. Liq. 3 - H226 Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H335 Asp. Tox. 1 - H304 Aquatic Chronic 2 - H411			

CUMENE			1-5%
CAS number: 98-82-8	EC number: 202-704-5	REACH registration number: 01-2119473983-24-XXXX	
Classification Flam. Liq. 3 - H226 STOT SE 3 - H335 Asp. Tox. 1 - H304 Aquatic Chronic 2 - H411			

MESITYLENE			1-5%
CAS number: 108-67-8	EC number: 203-604-4	REACH registration number: 01-2119463878-19-XXXX	
Classification Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H335 Asp. Tox. 1 - H304 Aquatic Chronic 2 - H411			

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments CAS 68476-85-7 - Petroleum Gas, The substance contains less than 0.1% w/w 1,3-butadiene, meaning that the full harmonised classification regarding Muta. 1B H340 and Carc. 1A H350 does not apply.

SECTION 4: First aid measures

4.1. Description of first aid measures

Lapwing Orbit Linemarker (All Colours)

General information	Move affected person to fresh air at once. Get medical attention if any discomfort continues. Never give anything by mouth to an unconscious person.
Inhalation	Move affected person to fresh air at once. If breathing stops, provide artificial respiration. Keep affected person warm and at rest. Get medical attention immediately.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting. Get medical attention.
Skin contact	Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.
Eye contact	Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Remove any contact lenses and open eyelids wide apart. Get medical attention immediately. Continue to rinse.

4.2. Most important symptoms and effects, both acute and delayed

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure. Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.
Inhalation	Vapours may cause drowsiness and dizziness.
Ingestion	Aspiration hazard if swallowed.
Skin contact	Prolonged skin contact may cause redness and irritation.
Eye contact	May cause severe eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	The following symptoms may occur: Nausea, headache, dizziness, coughing and breathing difficulty.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide or dry powder.
Unsuitable extinguishing media	Do not use a solid water stream.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Pressurised container: Must not be exposed to temperatures above 50°C. Forms explosive mixtures with air. May explode when heated or when exposed to flames or sparks. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.
Hazardous combustion products	Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting	Containers can burst violently or explode when heated, due to excessive pressure build-up. Cool aerosol containers exposed to heat with water spray and remove container, if no risk is involved. Do not use water jet as an extinguisher, as this will spread the fire. Collect contaminated fire fighting water separately. Do not let enter the sewage system.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Lapwing Orbit Linemarker (All Colours)

Personal precautions Ensure suitable respiratory protection is worn during removal of spillages in confined areas. For personal protection, see Section 8.

For non-emergency personnel Keep upwind to avoid inhalation of gases, vapours, fumes and smoke.

For emergency responders Wear anti-static protective clothing if there is a risk of ignition from static electricity. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

6.2. Environmental precautions

Environmental precautions Avoid the spillage or runoff entering drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Provide adequate ventilation. Contain spillage with sand, earth or other suitable non-combustible material. Avoid the spillage or runoff entering drains, sewers or watercourses. Absorb in vermiculite, dry sand or earth and place into containers.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Keep away from heat, sparks and open flame. Read and follow manufacturer's recommendations. Avoid inhalation of vapours and spray/mists. When sprayed on a naked flame or any incandescent material the aerosol vapours can be ignited. Avoid inhalation of vapours.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store at moderate temperatures in dry, well ventilated area. Keep away from heat, sparks and open flame. Pressurised container: Must not be exposed to temperatures above 50°C.

Storage class Extremely Flammable Aerosol

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

PETROLEUM GASES, LIQUEFIED; PETROLEUM GAS <0.1% 1,3 BUTADIENE

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 1750 mg/m³

Short-term exposure limit (15-minute): WEL 1250 ppm 2180 mg/m³

ACETONE

Long-term exposure limit (8-hour TWA): WEL 500 ppm 1210 mg/m³

Short-term exposure limit (15-minute): WEL 1500 ppm 3620 mg/m³

SOLVENT NAPHTHA, LIGHT AROMATIC <0.1% BENZENE

Long-term exposure limit (8-hour TWA): WEL 25 ppm 50 mg/m³(Sk)

BUTYL ACETATE -norm

Lapwing Orbit Linemarker (All Colours)

Long-term exposure limit (8-hour TWA): WEL 150 ppm 724 mg/m³

Short-term exposure limit (15-minute): WEL 200 ppm 966 mg/m³

CUMENE

Long-term exposure limit (8-hour TWA): WEL 25 ppm(Sk) 125 mg/m³(Sk)

Short-term exposure limit (15-minute): WEL 50 ppm(Sk) 250 mg/m³(Sk)

WEL = Workplace Exposure Limit

ACETONE (CAS: 67-64-1)

DNEL

Consumer - Oral; Long term : 62 mg/kg/day
 Consumer - Dermal; Long term : 62 mg/kg/day
 Industry - Dermal; Long term : 186 mg/kg/day
 Consumer - Inhalation; Long term : 200 mg/m³
 Industry - Inhalation; Short term : 2420 mg/m³
 Industry - Inhalation; Long term : 1210

PNEC

- Fresh water; 10.6 mg/l
 - marine water; 1.06 mg/l
 - Intermittent release; 21 mg/l
 - Soil; 29.5 mg/l
 - Sediment (Marinewater); 3.04 mg/kg
 - Sediment (Freshwater); 30.4 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation.

Personal protection

Wear protective work clothing.

Eye/face protection

The following protection should be worn: Chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. Wear protective gloves made of the following material: Laminate >480 minutes. For users with sensitive skin, it is recommended that suitable protective gloves are worn.

Other skin and body protection

Provide eyewash station. Wear protective clothing. For the greatest protection, clothing should include anti-static overalls, boots and gloves. Wear anti-static protective clothing if there is a risk of ignition from static electricity.

Hygiene measures

Wash promptly if skin becomes contaminated. Ensure the ventilation system is regularly maintained and tested. When using do not eat, drink or smoke.

Respiratory protection

No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. If ventilation is inadequate, suitable respiratory protection must be worn.

Thermal hazards

Spray will evaporate and cool rapidly and may cause frostbite or cold burns if in contact with skin.

SECTION 9: Physical and chemical properties

Lapwing Orbit Linemarker (All Colours)

9.1. Information on basic physical and chemical properties

Appearance	Aerosol.
Colour	Various colours.
Odour	Organic solvents.
Odour threshold	No information available.
pH	No information available.
Melting point	No information available.
Initial boiling point and range	No information available.
Flash point	A flash point method is not available but the major hazardous component, the Propellant has a flash point of <-60°C with flammability limits of 10.9% vol. upper and 1.4% vol. lower.
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapour pressure	4.5 bar @ 20°C
Vapour density	No information available.
Relative density	1.25-1.35 @ 20°C Density of paint base
Bulk density	No information available.
Solubility(ies)	Partially soluble in water.
Partition coefficient	No information available.
Auto-ignition temperature	No specific test data are available.
Decomposition Temperature	No information available.
Viscosity	No information available.

9.2. Other information

Other information	Not available.
Volatile organic compound	This product contains a maximum VOC content of 717 g/l.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Highly volatile.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No known hazardous reactions if stored under normal conditions. Will not polymerise.
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10.4. Conditions to avoid

Lapwing Orbit Linemarker (All Colours)

Conditions to avoid Avoid heat, flames and other sources of ignition. Avoid exposure to high temperatures or direct sunlight.

10.5. Incompatible materials

Materials to avoid Strong acids. Strong alkalis. Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 666,666.67

General information Contains organic solvents Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

Inhalation The product contains organic solvents. Overexposure may depress the central nervous system, causing dizziness and intoxication.

Ingestion Harmful: may cause lung damage if swallowed. Drowsiness, dizziness, disorientation, vertigo.

Skin contact Repeated exposure may cause skin dryness or cracking. Contains components which may penetrate the skin.

Eye contact Irritating to eyes. Vapour or spray in the eyes may cause irritation and smarting.

Acute and chronic health hazards Vapours in high concentrations are narcotic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Nausea, vomiting. Arrhythmia (deviation from normal heart beat). Defatting, drying and cracking of the skin.

Route of exposure Inhalation Skin absorption

Target organs Central nervous system Respiratory system, lungs Kidneys

Medical symptoms Narcotic effect. Vapours may cause drowsiness and dizziness.

Toxicological information on ingredients.

PETROLEUM GASES, LIQUEFIED; PETROLEUM GAS <0.1% 1,3 BUTADIENE

Toxicological effects Information given is based on data of the components and of similar products.

Acute toxicity - oral

Notes (oral LD₅₀) Not applicable.

Acute toxicity - dermal

Notes (dermal LD₅₀) Not applicable.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC₅₀ >20 mg/l, Inhalation, Rat

Skin corrosion/irritation

Skin corrosion/irritation Not irritating.

Serious eye damage/irritation

Lapwing Orbit Linemarker (All Colours)

Serious eye damage/irritation Not irritating.

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro This substance has no evidence of mutagenic properties.

Carcinogenicity

Carcinogenicity Carcinogenicity in humans is not expected.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development Does not contain any substances known to be toxic to reproduction.

Specific target organ toxicity - single exposure

STOT - single exposure A single exposure may cause the following adverse effects: Overexposure to organic solvents may depress the central nervous system, causing dizziness and intoxication and, at very high concentrations, unconsciousness and death.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation May cause respiratory system irritation.

Skin contact Spray will evaporate and cool rapidly and may cause frostbite or cold burns if in contact with skin.

Route of exposure Inhalation Skin and/or eye contact

ACETONE

Toxicological effects The toxicity of this substance has been assessed during REACH registration.

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀) 2,000.0 mg/kg

Species Rabbit

Skin sensitisation

Skin sensitisation Epidemiological studies have shown no evidence of skin sensitisation.

Skin contact Irritating to skin.

Lapwing Orbit Linemarker (All Colours)

Eye contact Irritating to eyes.

BUTYL ACETATE -norm

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 14,130.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 17,600.0

Species Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 29.2

Species Rat

ATE inhalation (vapours mg/l) 29.2

1,2,4-TRIMETHYLBENZENE

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 18,000.0

Species Rat

ATE inhalation (vapours mg/l) 18,000.0

CUMENE

Serious eye damage/irritation

Serious eye damage/irritation Eyes - rabbit- No irritation

MESITYLENE

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 24,000.0

Serious eye damage/irritation

Serious eye damage/irritation Eyes - Rabbit - Mild eye irritation - 24hrs

SECTION 12: Ecological information

Ecotoxicity

The product contains a substance which is harmful to aquatic organisms and which may cause long-term adverse effects in the aquatic environment. Avoid the spillage or runoff entering drains, sewers or watercourses.

Lapwing Orbit Linemarker (All Colours)

Ecological information on ingredients.

PETROLEUM GASES, LIQUEFIED; PETROLEUM GAS <0.1% 1,3 BUTADIENE

Ecotoxicity

Information given is based on data of the components and of similar products.

12.1. Toxicity

Ecological information on ingredients.

PETROLEUM GASES, LIQUEFIED; PETROLEUM GAS <0.1% 1,3 BUTADIENE

Toxicity

Not regarded as dangerous for the environment. The product is not believed to present a hazard due to its physical nature. Highly volatile.

ACETONE

Acute aquatic toxicity

Acute toxicity - fish

LC₅₀, 96 hours: >100 mg/l, Fish

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hours: 12600 mg/l, Daphnia magna
EC₅₀, 48 hours: 8300 mg/l, Daphnia magna

Acute toxicity - aquatic plants

IC₅₀, 72 hours: >100 mg/l, Algae

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates

NOEC, 28 days: >10<100 mg/l, Freshwater invertebrates

BUTYL ACETATE -norm

Acute aquatic toxicity

Acute toxicity - fish

, 96 hours: 100 mg/l, Lepomis macrochirus (Bluegill)

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hours: 72 - 205 mg/l, Daphnia magna

1,2,4-TRIMETHYLBENZENE

Acute aquatic toxicity

Acute toxicity - fish

LC₅₀, 96 hours: 7.72 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hours: 3.6 mg/l, Daphnia magna

CUMENE

Acute aquatic toxicity

Acute toxicity - fish

LC₅₀, 96 hours: 4.8 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hours: 2.14 mg/l, Daphnia magna
OECD Test Guideline 202

Acute toxicity - aquatic plants

EC₅₀, 72 hours: 2.6 mg/l, Freshwater algae

MESITYLENE

Acute aquatic toxicity

Lapwing Orbit Linemarker (All Colours)

Acute toxicity - fish LC50, 96 hours: 12.52 mg/l, Carassius auratus (Goldfish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 6 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability There are no data on the degradability of this product.

Ecological information on ingredients.

PETROLEUM GASES, LIQUEFIED; PETROLEUM GAS <0.1% 1,3 BUTADIENE

Persistence and degradability The product is readily biodegradable.

ACETONE

Persistence and degradability The product is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient No information available.

Ecological information on ingredients.

PETROLEUM GASES, LIQUEFIED; PETROLEUM GAS <0.1% 1,3 BUTADIENE

Bioaccumulative potential Bioaccumulation is unlikely.

12.4. Mobility in soil

Mobility The product contains volatile substances which may spread in the atmosphere.

Ecological information on ingredients.

PETROLEUM GASES, LIQUEFIED; PETROLEUM GAS <0.1% 1,3 BUTADIENE

Mobility The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment Not determined

Ecological information on ingredients.

PETROLEUM GASES, LIQUEFIED; PETROLEUM GAS <0.1% 1,3 BUTADIENE

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

ACETONE

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

SECTION 13: Disposal considerations

Lapwing Orbit Linemarker (All Colours)

13.1. Waste treatment methods

General information	Do not puncture or incinerate, even when empty. Ensure containers are empty before discarding (explosion risk). Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
Disposal methods	Containers should be thoroughly emptied before disposal because of the risk of an explosion. Do not puncture or incinerate, even when empty. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
Waste class	Empty Aerosol: 15 01 10 (Containing hazardous residues), Full or Partially Empty Aerosol: 16 05 04, Empty Aerosol: 15 01 04 (No hazardous residues).

SECTION 14: Transport information

General	This product is packed in accordance with the Limited quantity Provisions of CDGCPL2, ADR and IMDG. These provisions allow the transport of aerosols of less than 1 litre packed in cartons of less than 30kg gross weight to be exempt from control providing they are labelled in accordance with the requirements of those regulations to show that they are transported as Limited Quantities. Aerosols not so packed must show the following.
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14.1. UN number

UN No. (ADR/RID)	1950
UN No. (IMDG)	1950
UN No. (ICAO)	1950
UN No. (ADN)	1950

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	AEROSOLS
Proper shipping name (IMDG)	AEROSOLS
Proper shipping name (ICAO)	AEROSOLS
Proper shipping name (ADN)	AEROSOLS

14.3. Transport hazard class(es)

ADR/RID class	2.1
ADR/RID classification code	5F
ADR/RID label	2.1
IMDG class	2.1
ICAO class/division	2.1
ADN class	2.1

Transport labels



14.4. Packing group

Not applicable.

ADR/RID packing group	#
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Lapwing Orbit Linemarker (All Colours)

IMDG packing group #

ICAO packing group #

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

IMDG Code segregation group SG69

EmS F-D, S-U

ADR transport category 2

Hazard Identification Number (ADR/RID) Not applicable

Tunnel restriction code (D)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations The Aerosol Dispensers Regulations 2009 (SI 2009 No. 2824).

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Guidance ECHA: Guidance on the Compilation of safety data sheets. (V3.1, November 2015)

Authorisations (Title VII Regulation 1907/2006) No specific authorisations are known for this product.

Restrictions (Title VIII Regulation 1907/2006) No specific restrictions on use are known for this product.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Classification procedures according to Regulation (EC) 1272/2008 Aerosol 1 - H222, H229: Weight of evidence. Eye Irrit. 2 - H319, STOT SE 3 - H336, Aquatic Chronic 3 - H412: Calculation method.

Issued by Technical Department

Revision date 03/05/2017

Revision 8

Lapwing Orbit Linemarker (All Colours)

Supersedes date	01/08/2016
SDS number	20581
Hazard statements in full	<p>H220 Extremely flammable gas.</p> <p>H222 Extremely flammable aerosol.</p> <p>H225 Highly flammable liquid and vapour.</p> <p>H226 Flammable liquid and vapour.</p> <p>H229 Pressurised container: may burst if heated.</p> <p>H280 Contains gas under pressure; may explode if heated.</p> <p>H304 May be fatal if swallowed and enters airways.</p> <p>H315 Causes skin irritation.</p> <p>H319 Causes serious eye irritation.</p> <p>H332 Harmful if inhaled.</p> <p>H335 May cause respiratory irritation.</p> <p>H336 May cause drowsiness or dizziness.</p> <p>H411 Toxic to aquatic life with long lasting effects.</p> <p>H412 Harmful to aquatic life with long lasting effects.</p>

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.