

COSHH RISK ASSESSMENT

MTN 94 Spray Paint

Assessment No.	COSHH RA 001
Version	02
Author	Dr Eric Hoang (Director)
Date	18/01/23

1. HAZARDOUS SUBSTANCES

Substance Name	MTN 94 spray paint				
MSDS Ref	EX0140020M - MTN 94 version 1 (05/02/21)				
Physical Form	Liquid ☐ Solid ☐ Gas ☐ Aerosol ☒ Other ☐				
Persons Likely to be Exposed to Substance	Artists Personnel at location Members of the public				
Process	Paint mural with spray paint				
Name of hazardous substances	Identification		Chemical name/Classification		Concentration
	CAS: 141-78-6 EC: 205-500-4 Index: 607-022-00-5 REACH: 01-2119475103-46-XXXX	Ethyl acetate ⁽¹⁾ Regulation 1272/2008	ATP CLP00 Eye Irrit. 2: H319; Flam. Liq. 2: H225; STOT SE 3: H336; EUH066 - Danger		10 - <20 %
	CAS: 106-97-8 EC: 203-448-7 Index: 601-004-00-0 REACH: 01-2119474691-32-XXXX	Butane ⁽²⁾ Regulation 1272/2008	ATP CLP00 Flam. Gas 1A: H220; Press. Gas: H280 - Danger		10 - <20 %
	CAS: Non-applicable EC: 905-562-9 Index: Non-applicable REACH: 01-2119555267-33-XXXX	Reaction mass of ethylbenzene and m-xylene and p-xylene ⁽¹⁾ Regulation 1272/2008	Self-classified Acute Tox. 4: H312+H332; Asp. Tox. 1: H304; Eye Irrit. 2: H319; Flam. Liq. 3: H226; Skin Irrit. 2: H315; STOT RE 2: H373; STOT SE 3: H335 - Danger		10 - <20 %
	CAS: 13463-67-7 EC: 236-675-5 Index: Non-applicable REACH: 01-2119489379-17-XXXX	Titanium dioxide (aerodynamic diameter ≤ 10 µm) ⁽¹⁾ Regulation 1272/2008	Self-classified Carc. 2: H351 - Warning		<20 %
	CAS: 74-98-6 EC: 200-827-9 Index: 601-003-00-5 REACH: 01-2119486944-21-XXXX	Propane ⁽²⁾ Regulation 1272/2008	ATP CLP00 Flam. Gas 1A: H220; Press. Gas: H280 - Danger		5 - <10 %
	CAS: 75-28-5 EC: 200-857-2 Index: 601-004-00-0 REACH: 01-2119485395-27-XXXX	Isobutane ⁽²⁾ Regulation 1272/2008	ATP CLP00 Flam. Gas 1A: H220; Press. Gas: H280 - Danger		5 - <10 %
	CAS: 123-86-4 EC: 204-658-1 Index: 607-025-00-1 REACH: 01-2119485493-29-XXXX	N-butyl acetate ⁽¹⁾ Regulation 1272/2008	ATP CLP00 Flam. Liq. 3: H226; STOT SE 3: H336; EUH066 - Warning		1 - <2,5 %
	CAS: 108-65-6 EC: 203-603-9 Index: 607-195-00-7 REACH: 01-2119475791-29-XXXX	2-methoxy-1-methylethyl acetate ⁽¹⁾ Regulation 1272/2008	Self-classified Flam. Liq. 3: H226; STOT SE 3: H336 - Warning		1 - <2,5 %
	CAS: 1330-20-7 EC: 215-535-7 Index: 601-022-00-9 REACH: 01-2119488216-32-XXXX	Xylene ⁽³⁾ Regulation 1272/2008	Self-classified Acute Tox. 4: H312+H332; Asp. Tox. 1: H304; Eye Irrit. 2: H319; Flam. Liq. 3: H226; Skin Irrit. 2: H315; STOT RE 2: H373; STOT SE 3: H335 - Danger		0,3 - <1 %

	Identification		Chemical name/Classification		Concentration
	CAS: 22464-99-9 EC: 245-018-1 Index: Non-applicable REACH: 01-2119979088-21-XXXX	2-ethylhexanoic acid, zirconium salt ⁽¹⁾	Self-classified	Regulation 1272/2008	Repr. 2: H361d - Warning
CAS: 96-29-7 EC: 202-496-6 Index: 616-014-00-0 REACH: 01-2119539477-28-XXXX	2-butanone oxime ⁽¹⁾	ATP ATP15	Regulation 1272/2008	Acute Tox. 4: H312; Carc. 2: H351; Eye Dam. 1: H318; Skin Sens. 1: H317 - Danger	0,05 - <0,3 %
CAS: Non-applicable EC: 430-050-2 Index: 616-127-00-5 REACH: 01-2120789217-43-XXXX	Reaction mass of: N,N-Ethane-1,2-diylbis(decanamide)/12-Hydroxy-N-[2-[1-oxydecyl]amino]ethyl]octadecanamide/N,N-Ethane-1,2-diylbis(12-hydroxyoctadecanamide) ⁽¹⁾	ATP CLP00	Regulation 1272/2008	Aquatic Chronic 2: H411; Skin Sens. 1: H317 - Warning	0,05 - <0,3 %
CAS: 100-41-4 EC: 202-849-4 Index: 601-023-00-4 REACH: 01-2119489370-35-XXXX	Ethylbenzene ⁽³⁾	ATP ATP06	Regulation 1272/2008	Acute Tox. 4: H332; Asp. Tox. 1: H304; Flam. Liq. 2: H225; STOT RE 2: H373 - Danger	0,05 - <0,3 %
CAS: 136-52-7 EC: 205-250-6 Index: Non-applicable REACH: 01-2119524678-29-XXXX	Cobalt bis(2-ethylhexanoate) ⁽¹⁾	Self-classified	Regulation 1272/2008	Aquatic Acute 1: H400; Aquatic Chronic 3: H412; Eye Irrit. 2: H319; Repr. 1B: H360; Skin Sens. 1A: H317 - Danger	0,05 - <0,3 %
CAS: 34590-94-8 EC: 252-104-2 Index: Non-applicable REACH: 01-2119450011-60-XXXX	Dipropylene Glycol Methyl Ether ⁽³⁾	Not classified	Regulation 1272/2008		<0,05 %
Location of process	Mainly outdoor. Occasionally indoor at Client premises.				
Quantity used during process	Up to 80 spraycans (400 mL) 				
Storage location	Artist studio. Client Premises for temporary storage during mural production. Work area.				
Hazards	 Explosive ☐	 Flammable ☒			
	 Oxidising ☐	 Irritant ☒ Harmful ☐			
	 Corrosive ☒	 Hazardous to the Environment ☐			
	 Compressed gas ☐	 Serious health hazard ☒			
	 Acute Toxicity ☐ Carcinogen ☐ Mutagen ☐ Reproductive Toxin ☐				
Hazard types	Gas ☒ Vapour ☒ Mist ☒ Fume ☒ Dust ☐ Liquid ☐ Solid ☐ Other ☐ :				

COSHH RISK ASSESSMENT	MTN 94 Spray Paint	COSHH RA 001
------------------------------	--------------------	---------------------

Hazards statements	Aerosol 1: H229 - Pressurised container: May burst if heated. Aerosol 1: H222 - Extremely flammable aerosol. Eye Irrit. 2: H319 - Causes serious eye irritation. Skin Irrit. 2: H315 - Causes skin irritation. STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure. STOT SE 3: H336 - May cause drowsiness or dizziness.																																																									
Precautionary statements	P101: If medical advice is needed, have product container or label at hand. P102: Keep out of reach of children. P103: Read label before use. 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. P260: Do not breathe spray. P271: Use only outdoors or in a well-ventilated area. P410+P412: Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F P501: Dispose of contents/container according to the separated collection system used in your municipality. EUH208: Contains 2-butanone oxime, Cobalt bis(2-ethylhexanoate), Reaction mass of: N,N-Ethane-1,2-diylbis(decanamide)/12-Hydroxy-N-[2-[1-oxydecyl]amino]ethyl]octadecanamide/N,N-Ethane-1,2-diylbis(12-hydroxyoctadecanamide). May produce an allergic reaction. EUH211: Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist. Substances that contribute to the classification Ethyl acetate; Reaction mass of ethylbenzene and m-xylene and p-xylene ; N-butyl acetate; 2-methoxy-1-methylethyl acetate																																																									
Routes of Entry	Inhalation ☒	Skin ☒	Eye ☒	Injection ☐	Ingestion ☐	Other ☐ :																																																				
First Aid Measures	Description of first aid measures: The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product. By inhalation: Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance. By skin contact: Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection. By eye contact: Rinse eyes thoroughly with water for at least 15 minutes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case removal could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS for the product. By ingestion/aspiration: Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion. Most important symptoms and effects, both acute and delayed: Acute and delayed effects are indicated in sections 2 and 11. Indication of any immediate medical attention and special treatment needed: Non-applicable																																																									
Occupational Exposure Limits (OELs)	<table border="1"> <thead> <tr> <th>Identification</th><th colspan="3">Occupational exposure limits</th></tr> </thead> <tbody> <tr> <td>N-butyl acetate CAS: 123-86-4 EC: 204-658-1</td><td>IOELV (8h)</td><td>50 ppm</td><td>241 mg/m³</td></tr> <tr> <td></td><td>IOELV (STEL)</td><td>150 ppm</td><td>723 mg/m³</td></tr> <tr> <td>Xylene CAS: 1330-20-7 EC: 215-535-7</td><td>IOELV (8h)</td><td>50 ppm</td><td>221 mg/m³</td></tr> <tr> <td></td><td>IOELV (STEL)</td><td>100 ppm</td><td>442 mg/m³</td></tr> <tr> <td>Ethylbenzene CAS: 100-41-4 EC: 202-849-4</td><td>IOELV (8h)</td><td>100 ppm</td><td>442 mg/m³</td></tr> <tr> <td></td><td>IOELV (STEL)</td><td>200 ppm</td><td>884 mg/m³</td></tr> <tr> <td>2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9</td><td>IOELV (8h)</td><td>50 ppm</td><td>275 mg/m³</td></tr> <tr> <td></td><td>IOELV (STEL)</td><td>100 ppm</td><td>550 mg/m³</td></tr> <tr> <td>Dipropylene Glycol Methyl Ether CAS: 34590-94-8 EC: 252-104-2</td><td>IOELV (8h)</td><td>50 ppm</td><td>308 mg/m³</td></tr> <tr> <td></td><td>IOELV (STEL)</td><td></td><td></td></tr> <tr> <td>Ethyl acetate CAS: 141-78-6 EC: 205-500-4</td><td>IOELV (8h)</td><td>200 ppm</td><td>734 mg/m³</td></tr> <tr> <td></td><td>IOELV (STEL)</td><td>400 ppm</td><td>1468 mg/m³</td></tr> </tbody> </table>						Identification	Occupational exposure limits			N-butyl acetate CAS: 123-86-4 EC: 204-658-1	IOELV (8h)	50 ppm	241 mg/m³		IOELV (STEL)	150 ppm	723 mg/m³	Xylene CAS: 1330-20-7 EC: 215-535-7	IOELV (8h)	50 ppm	221 mg/m³		IOELV (STEL)	100 ppm	442 mg/m³	Ethylbenzene CAS: 100-41-4 EC: 202-849-4	IOELV (8h)	100 ppm	442 mg/m³		IOELV (STEL)	200 ppm	884 mg/m³	2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	IOELV (8h)	50 ppm	275 mg/m³		IOELV (STEL)	100 ppm	550 mg/m³	Dipropylene Glycol Methyl Ether CAS: 34590-94-8 EC: 252-104-2	IOELV (8h)	50 ppm	308 mg/m³		IOELV (STEL)			Ethyl acetate CAS: 141-78-6 EC: 205-500-4	IOELV (8h)	200 ppm	734 mg/m³		IOELV (STEL)	400 ppm	1468 mg/m³
Identification	Occupational exposure limits																																																									
N-butyl acetate CAS: 123-86-4 EC: 204-658-1	IOELV (8h)	50 ppm	241 mg/m³																																																							
	IOELV (STEL)	150 ppm	723 mg/m³																																																							
Xylene CAS: 1330-20-7 EC: 215-535-7	IOELV (8h)	50 ppm	221 mg/m³																																																							
	IOELV (STEL)	100 ppm	442 mg/m³																																																							
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	IOELV (8h)	100 ppm	442 mg/m³																																																							
	IOELV (STEL)	200 ppm	884 mg/m³																																																							
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	IOELV (8h)	50 ppm	275 mg/m³																																																							
	IOELV (STEL)	100 ppm	550 mg/m³																																																							
Dipropylene Glycol Methyl Ether CAS: 34590-94-8 EC: 252-104-2	IOELV (8h)	50 ppm	308 mg/m³																																																							
	IOELV (STEL)																																																									
Ethyl acetate CAS: 141-78-6 EC: 205-500-4	IOELV (8h)	200 ppm	734 mg/m³																																																							
	IOELV (STEL)	400 ppm	1468 mg/m³																																																							

COSHH RISK ASSESSMENT	MTN 94 Spray Paint	COSHH RA 001
-----------------------	--------------------	--------------

Personal Protective Equipment (PPE)	 ☒	Half-mask respirator with A2P3 filters
	 ☒	Chemical resistant nitrile gloves (EN374-1 & EN374-2)
	 ☒	Safety spectacles (EN166)
	 ☒	Safety shoes (steel toe caps)
	 ☐	Face shield
	Other ☐	
Accidental Release Measures	Personal precautions, protective equipment and emergency procedures: Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Destroy any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground. Environmental precautions: Avoid spillage into the aquatic environment as it contains substances potentially dangerous for this. Contain the product absorbed in hermetically sealed containers. In the case of serious spillage into the aquatic environment notify the relevant authority. Methods and material for containment and cleaning up: It is recommended: Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.	
Firefighting Measures	Extinguishing media: Suitable extinguishing media: If possible use polyvalent powder fire extinguishers (ABC powder), alternatively use foam or carbon dioxide extinguishers (CO₂). Unsuitable extinguishing media: IT IS RECOMMENDED NOT to use full jet water as an extinguishing agent. Special hazards arising from the substance or mixture: As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk. Advice for firefighters: Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC. Additional provisions: Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.	

COSHH RISK ASSESSMENT	MTN 94 Spray Paint	COSHH RA 001
------------------------------	--------------------	---------------------

2. RISK ASSESSMENT & CONTROL MEASURES

A risk assessment was carried out on the above task. A scoring system was used to highlight the Hazard Rating. Hazard Rating is calculated using values from the following matrix.

Consequence	Fatality	5	5	10	15	20	25
	Long Term Serious Injury/Illness	4	4	8	12	16	20
	Lost Time Injury/Illness	3	3	6	9	12	15
	First Aid Injury	2	2	4	6	8	10
	Minor injury	1	1	2	3	4	5
			1	2	3	4	5
			Very unlikely	Unlikely	Possible	Likely	Almost Certain
			Likelihood				

Hazard Rating	
Rating	Category
1 – 2	Negligible Risk
3 – 4	Low Risk
5 – 10	Medium Risk
11 – 15	High Risk
16 - 25	Unacceptable Risk

Task	Painting with spray paint MTN 94			
Hazard	Inhalation from paint. Skin irritation. Eye irritation.			
Person at risk	Artist			
Equipment Used	MTN 94 spraycans			
Control Measures	Wear PPE: - Half-mask respirator (A2 organic filter + P3 Particulate filter) - Eye protection - Chemical resistant nitrile gloves - Safety boots Take regular breaks.			
Hazard Rating	Likelihood	Consequence	Hazard Rating	Rating Colour
	2	4	8	Medium Risk

COSHH RISK ASSESSMENT	MTN 94 Spray Paint	COSHH RA 001
------------------------------	--------------------	---------------------

Task	Painting with spray paint MTN 94			
Hazard	Inhalation from paint. Skin irritation. Eye irritation.			
Person at risk	Personnel. Members of the public.			
Equipment Used	MTN 94 spraycans			
Control Measures	Cordon off working area to ensure personnel and/or members of the public are kept away for aerosol vapour, mists and fumes. Painting indoor only in well ventilated area and/or after working hours or weekend to minimise exposure to personnel.			
Hazard Rating	Likelihood	Consequence	Hazard Rating	Rating Colour
	2	3	6	Medium Risk

Task	Transport and use of spray paint MTN 94			
Hazard	Slips, trips and falls			
Person at risk	Artist Client personnel Members of the public			
Equipment Used	MTN 94 spraycans			
Control Measures	Collect spraycans immediately if they fall on the ground and roll Store spraycans in original cardboard box (capacity of 6) or holdall bags. Do not overload trolley if used for moving.			
Hazard Rating	Likelihood	Consequence	Hazard Rating	Rating Colour
	2	4	8	Medium Risk

Task	Manual handling of spray paint MTN 94			
Hazard	Musculoskeletal Disorder (MDS) during loading/unloading of spraycans			
Person at risk	Artist			
Equipment Used	MTN 94 spraycans			
Control Measures	Manual handling training. Store spray paint in original cardboard box (capacity of 6) or small holdall bags. Split loads into lighter loads when loading/unloading. Use platform truck as handling aid to move spraycans.			
Hazard Rating	Likelihood	Consequence	Hazard Rating	Rating Colour
	2	4	8	Medium Risk

COSHH RISK ASSESSMENT	MTN 94 Spray Paint	COSHH RA 001
------------------------------	--------------------	---------------------

Task	Storage of spray paint MTN 94			
Hazard	Explosion Fire			
Person at risk	Artist Client Personnel Members of the public			
Equipment Used	Spray paint MTN 94			
Control Measures	Store away from any source of ignition, heat. Store in well ventilated area where possible. Store in segregated area not used as working area by personnel or members of the public.			
Hazard Rating	Likelihood	Consequence	Hazard Rating	Rating Colour
	2	5	10	Medium Risk

The following persons understand the identified control measures in the Hazardous Assessments listed above and have been trained in the risk reduction methods as described within the assessments.

Name	Signature	Date
Eric HOANG		18/01/23