



SAFETY DATA SHEET

2100 Hard-Hat® Series Metallic Finishes

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

1.1 Product identifier

Product name : 2100 Hard-Hat® Series Metallic Finishes
Product description : Aerosol. Paint
Product type : Aerosol.
UFI : 1DH1-H0J5-G00J-YQRF

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

Identified uses	
Consumer use Industrial use Professional use	
Uses advised against	Reason
None identified.	-

1.3 Details of the supplier of the safety data sheet

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enquiries@tor-coatings.com

e-mail address of person responsible for this SDS : rpmeurohas@rustoleum.eu

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number United Kingdom: : 809 2166
Northern Ireland : Available 8am to 10pm 7 days per week

Supplier

Telephone number United Kingdom: : +353 19014670
Northern Ireland
Hours of operation : 24 / 7

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Aerosol 1, H222, H229

Eye Irrit. 2, H319

STOT SE 3, H336

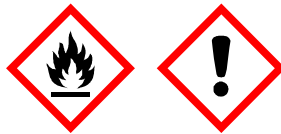
The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H222, H229 - Extremely flammable aerosol. Pressurised container: may burst if heated.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.

Precautionary statements

General : P103 - Read carefully and follow all instructions.
P102 - Keep out of reach of children.
P101 - If medical advice is needed, have product container or label at hand.

Prevention : P280 - Wear eye or face protection.
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.
P271 - Use only outdoors or in a well-ventilated area.
P251 - Do not pierce or burn, even after use.

Response : Not applicable.

Storage : P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : n-butyl acetate
Ethylacetate

Supplemental label elements : EUH066 - Repeated exposure may cause skin dryness or cracking.
EUH208 - Contains maleic anhydride. May produce an allergic reaction.

Supplemental label elements : Detergents - Regulation (EC) No 907/2006 : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

SECTION 2: Hazards identification

Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

United Kingdom: Northern Ireland

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
dimethyl ether	REACH #: 01-2119472128-37 EC: 204-065-8 CAS: 115-10-6	≥25 - ≤50	Flam. Gas 1A, H220 Press. Gas (Comp.), H280 EUH018	-	[2]
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≥10 - <20	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	-	[1] [2]
Ethylacetate	REACH #: 01-2119475103-46 EC: 205-500-4 CAS: 141-78-6 Index: 607-022-00-5	≥10 - <20	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	-	[1] [2]
1-methoxy-2-propanol	REACH #: 01-2119457435-35 EC: 203-539-1 CAS: 107-98-2 Index: 603-064-00-3	≤10	Flam. Liq. 3, H226 STOT SE 3, H336	-	[1] [2]
hydrocarbons, C10-C13, n-/iso-/ cyclo-alkanes, < 2% aromatics	REACH #: 01-2119457273-39 EC: 918-481-9 Index: 649-327-00-6	≤3	Asp. Tox. 1, H304 EUH066	-	[1] [2]
hydrocarbons, aromatic, C9	REACH #: 01-2119455851-35 EC: 918-668-5	≤3	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	-	[1]
maleic anhydride	REACH #: 01-2119472428-31 EC: 203-571-6 CAS: 108-31-6 Index: 607-096-00-9	≤0,1	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1A, H317 STOT RE 1, H372 (inhalation) EUH071	ATE [Oral] = 400 mg/kg Skin Sens. 1, H317: C ≥ 0,001%	[1] [2]

SECTION 3: Composition/information on ingredients

			See Section 16 for the full text of the H statements declared above.		
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There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness

SECTION 4: First aid measures

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
dryness
cracking
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Extremely flammable aerosol. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed.
- Hazardous combustion products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
- Additional information** : Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Do not puncture, incinerate or store the container at temperatures above 49°C (120°F) or in direct sunlight. Container explosion may occur under fire conditions or when heated. Bursting aerosol containers may be propelled from a fire at high speed.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. 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.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 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).

6.3 Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections

- : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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 only non-sparking tools. Empty containers retain product residue and can be hazardous.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

SECTION 7: Handling and storage

Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P3a	150 tonne	500 tonne

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits / Biological exposure indices

United Kingdom: Northern Ireland

Product/ingredient name	Exposure limit values
dimethyl ether	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 958 mg/m ³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 766 mg/m ³ 8 hours. TWA: 400 ppm 8 hours.
n-butyl acetate	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 966 mg/m ³ 15 minutes. STEL: 200 ppm 15 minutes. TWA: 724 mg/m ³ 8 hours. TWA: 150 ppm 8 hours.
Ethylacetate	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 400 ppm 15 minutes. TWA: 200 ppm 8 hours. STEL: 1468 mg/m ³ 15 minutes. TWA: 734 mg/m ³ 8 hours.
1-methoxy-2-propanol	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin. STEL: 560 mg/m ³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 375 mg/m ³ 8 hours. TWA: 100 ppm 8 hours.
hydrocarbons, C10-C13, n-/ iso-/ cyclo-alkanes, < 2% aromatics	EH40/2005 WELs (United Kingdom (UK), 8/2007). STEL: 850 mg/m ³ , (as turpentine (150 ppm)) 15 minutes. Form: Vapour TWA: 566 mg/m ³ , (as turpentine (100 ppm)) 8 hours. Form: Vapour
maleic anhydride	EH40/2005 WELs (United Kingdom (UK), 1/2020). Inhalation sensitiser. STEL: 3 mg/m ³ 15 minutes. TWA: 1 mg/m ³ 8 hours.

SECTION 8: Exposure controls/personal protection

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects	
n-butyl acetate	DNEL	Long term Dermal	7 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Oral	3,4 mg/kg bw/day	General population [Consumers]	Systemic	
	DNEL	Short term Inhalation	960 mg/m ³	Workers	Systemic	
	DNEL	Short term Inhalation	960 mg/m ³	Workers	Local	
	DNEL	Long term Inhalation	480 mg/m ³	Workers	Systemic	
	DNEL	Long term Inhalation	480 mg/m ³	Workers	Local	
	DNEL	Short term Inhalation	859,7 mg/m ³	General population [Consumers]	Systemic	
	DNEL	Short term Inhalation	859,7 mg/m ³	General population [Consumers]	Local	
	DNEL	Long term Inhalation	102,34 mg/m ³	General population [Consumers]	Systemic	
	DNEL	Long term Inhalation	102,34 mg/m ³	General population [Consumers]	Local	
	DNEL	Long term Dermal	3,4 mg/kg bw/day	General population [Consumers]	Systemic	
	Ethylacetate	DNEL	Short term Inhalation	1468 mg/m ³	Workers	Local
		DNEL	Short term Inhalation	1468 mg/m ³	Workers	Systemic
DNEL		Long term Inhalation	734 mg/m ³	Workers	Local	
DNEL		Long term Inhalation	34 mg/m ³	Workers	Systemic	
DNEL		Long term Dermal	63 mg/kg bw/day	Workers	Systemic	
DNEL		Short term Inhalation	734 mg/m ³	General population [Consumers]	Local	
DNEL		Short term Inhalation	734 mg/m ³	General population [Consumers]	Systemic	
DNEL		Long term Inhalation	367 mg/m ³	General population [Consumers]	Local	
DNEL		Long term Inhalation	367 mg/m ³	General population	Systemic	

SECTION 8: Exposure controls/personal protection

1-methoxy-2-propanol	DNEL	Long term Dermal	37 mg/kg bw/day	[Consumers] General population	Systemic
	DNEL	Long term Oral	4,5 mg/kg bw/day	[Consumers] General population	Systemic
	DNEL	Short term Inhalation	553,5 mg/m ³	[Consumers] Workers	Local
	DNEL	Long term Inhalation	369 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	50,6 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	43,9 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	18,1 mg/kg bw/day	[Consumers] General population	Systemic
	DNEL	Long term Oral	3,3 mg/kg bw/day	[Consumers] General population	Systemic
hydrocarbons, aromatic, C9	DNEL	Long term Inhalation	150 mg/m ³	[Consumers] Workers	Systemic
	DNEL	Long term Dermal	25 mg/kg	Workers	Systemic
	DNEL	Long term Dermal	11 mg/kg	General population	Systemic
	DNEL	Long term Inhalation	32 mg/m ³	General population	Systemic
maleic anhydride	DNEL	Long term Oral	11 mg/kg	General population	Systemic
	DNEL	Short term Inhalation	0,8 mg/m ³	Workers	Systemic
	DNEL	Short term Dermal	0,04 mg/kg	Workers	Systemic
	DNEL	Long term Inhalation	0,4 mg/m ³	Workers	Systemic

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
n-butyl acetate	Fresh water	0,18 mg/l	-
	Marine	0,018 mg/l	-
	Fresh water sediment	0,981 mg/kg	-
	Marine water sediment	0,0981 mg/kg	-
	Soil	0,0903 mg/kg	-
	Sewage Treatment Plant	35,6 mg/l	-
	Ethylacetate	Fresh water	0,24 mg/l
Marine		0,024 mg/l	-
Fresh water sediment		1,15 mg/kg	-
Marine water sediment		0,115 mg/kg	-
Soil		0,148 mg/kg	-
Sewage Treatment Plant		650 mg/l	-
1-methoxy-2-propanol	Fresh water	10 mg/l	-
	Fresh water sediment	41,6 mg/l	-
	Marine water sediment	4,17 mg/l	-
	Soil	2,47 mg/l	-
	Sewage Treatment Plant	100 mg/l	-
maleic anhydride	Fresh water	0,04281 mg/l	-
	Marine water	0,004281 mg/l	-
	Soil	0,0415 mg/l	-

SECTION 8: Exposure controls/personal protection

	Fresh water sediment	0,334 mg/kg	-
	Marine water sediment	0,0334 mg/kg	-
	Sewage Treatment Plant	44,6 mg/l	-

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

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. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Use eye protection according to EN 166. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The breakthrough time must be greater than the end use time of the product.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that gloves are free from defects and that they are stored and used correctly.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance. Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): polyethylene (PE), polyvinyl alcohol (PVA)

The recommendation for the type or types of glove to use when handling this product is based on information from the following source: EN374. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods. Recommended: Personnel should wear antistatic clothing made of natural fibres or of high-temperature-resistant synthetic fibres.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

SECTION 8: Exposure controls/personal protection

- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: organic vapour (Type AX) and particulate filter (EN 140) .
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

- Physical state** : Liquid. [Aerosol.]
- Colour** : Silver.
- Odour** : Hydrocarbon.
- Odour threshold** : Not available.

- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.

Ingredient name	°C	°F	Method
dimethyl ether	-24,82	-12,7	

- Flammability (solid, gas)** : Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Slightly flammable in the presence of the following materials or conditions: shocks and mechanical impacts.
In use, may form flammable/explosive vapour-air mixture. Vapour may travel a considerable distance to source of ignition and flash back.
- Lower and upper explosion limit** : Lower: 3%
Upper: 18%
- Flash point** : Closed cup: -40°C (-40°F) [Literature]
- Auto-ignition temperature** : 350°C (662°F) [Literature]
- Decomposition temperature** : Not available.
- pH** : Not applicable.
- pH : Justification** : Product is non-soluble (in water).
- Viscosity** : Dynamic: Not applicable.
Kinematic: Not applicable.
- Solubility(ies)** :

Media	Result
cold water	Not soluble
hot water	Not soluble

- Solubility in water** : Not available.
- Partition coefficient: n-octanol/ water** : Not applicable.
- Vapour pressure** : 420 kPa (3150,26 mm Hg) [calculated.]
- Evaporation rate** : Not available.
- Relative density** : Not available.
- Density** : 0,8 g/cm³ [20°C (68°F)] [DIN 53217]
- Vapour density** : >1 [Air = 1]

SECTION 9: Physical and chemical properties

- Explosive properties** : Highly explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and shocks and mechanical impacts. Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Do not puncture, incinerate or store the container at temperatures above 49°C (120°F) or in direct sunlight. Container explosion may occur under fire conditions or when heated. Bursting aerosol containers may be propelled from a fire at high speed.
- Oxidising properties** : Not available.
- Particle characteristics**
- Median particle size** : Not applicable.

9.2 Other information

Heat of combustion : 22,84 kJ/g

Aerosol product

Type of aerosol : Spray

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : Avoid all possible sources of ignition (spark or flame).
- 10.5 Incompatible materials** : No specific data.
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
dimethyl ether	LC50 Inhalation Gas.	Mouse	386 ppm	0,5 hours
	LC50 Inhalation Gas.	Rat	308000 mg/m ³	1 hours
	LC50 Inhalation Gas.	Rat	164000 ppm	4 hours
n-butyl acetate	LC50 Inhalation Vapour	Rat	309 g/m ³	4 hours
	LC50 Inhalation Dusts and mists	Rat - Male, Female	23,4 mg/l	4 hours
	LC50 Inhalation Vapour	Rat	>21 mg/l	4 hours
	LC50 Inhalation Vapour	Rat	9700 mg/m ³	4 hours
Ethylacetate	LD50 Oral	Rat	14000 mg/kg	-
	LC50 Inhalation Vapour	Rat	>22,5 mg/l	6 hours
	LD50 Oral	Mouse	4100 mg/kg	-
	LD50 Oral	Rabbit	4935 mg/kg	-
1-methoxy-2-propanol	LD50 Oral	Rat	5620 mg/kg	-
	LC50 Inhalation Vapour	Rat	30,02 mg/l	4 hours
	LD50 Dermal	Rabbit	13 g/kg	-
	LD50 Oral	Mouse	11700 mg/kg	-
hydrocarbons, C10-C13, n-/	LD50 Oral	Rat - Male, Female	4016 mg/kg	-
	LC50 Inhalation Vapour	Rat	5000 mg/m ³	4 hours

SECTION 11: Toxicological information

iso-/ cyclo-alkanes, < 2% aromatics	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
hydrocarbons, aromatic, C9	LD50 Oral	Rat	8400 mg/kg	-
maleic anhydride	LD50 Dermal	Rabbit	2620 mg/kg	-
	LD50 Oral	Rat	400 mg/kg	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
dimethyl ether	N/A	N/A	164000	309	N/A
n-butyl acetate	N/A	N/A	N/A	N/A	23,4
hydrocarbons, aromatic, C9	8400	N/A	N/A	N/A	N/A
maleic anhydride	400	2620	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
hydrocarbons, aromatic, C9	Eyes - Mild irritant	Rabbit	-	24 hours 100 UI	-
maleic anhydride	Eyes - Severe irritant	Rabbit	-	1 Percent	-

Conclusion/Summary

Skin : Based on available data, the classification criteria are not met.

Eyes : Causes serious eye irritation.

Respiratory : May cause drowsiness or dizziness.

Sensitisation

Conclusion/Summary

Skin : Based on available data, the classification criteria are not met.

Respiratory : Based on available data, the classification criteria are not met.

Mutagenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
hydrocarbons, aromatic, C9	-	-	Negative	Mammal - species unspecified	Route of exposure unreported	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
n-butyl acetate	Category 3	-	Narcotic effects
Ethylacetate	Category 3	-	Narcotic effects
1-methoxy-2-propanol	Category 3	-	Narcotic effects
hydrocarbons, aromatic, C9	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
maleic anhydride	Category 1	inhalation	-

Aspiration hazard

Product/ingredient name	Result
hydrocarbons, C10-C13, n-/ iso-/ cyclo-alkanes, < 2% aromatics	ASPIRATION HAZARD - Category 1
hydrocarbons, aromatic, C9	ASPIRATION HAZARD - Category 1

Information on likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation, Eyes.
Routes of entry not anticipated: Oral.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Defatting to the skin. May cause skin dryness and irritation.
- Ingestion** : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
dryness
cracking
- Ingestion** : No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

SECTION 11: Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Based on available data, the classification criteria are not met.

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
n-butyl acetate	Acute EC50 397 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
Ethylacetate	Acute EC50 44 mg/l Fresh water	Daphnia spec.	48 hours
	Acute LC50 18 mg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Chronic NOEC 23 mg/l Fresh water	Daphnia spec.	21 days
	Acute EC50 5600 mg/l	Algae - <i>Scenedesmus subspicatus</i>	72 hours
1-methoxy-2-propanol	Acute EC50 165 mg/l Fresh water	Daphnia spec. - <i>Daphnia Cucullata</i>	48 hours
	Acute LC50 230 mg/l Fresh water	Fish - <i>Pimephales promelas</i>	48 hours
	Chronic NOEC 2,4 mg/l Fresh water	Daphnia spec. - <i>Daphnia magna</i>	21 days
	Chronic NOEC 6,9 mg/l Fresh water	Fish - <i>Pimephales promelas</i>	6,9 hours
hydrocarbons, C10-C13, n-/iso-/ cyclo-alkanes, < 2% aromatics	Acute EC50 >1000 mg/l	Algae - <i>Selenastrum capricornutum</i>	7 days
	Acute EC50 23300 mg/l	Daphnia spec.	96 hours
	Acute LC50 6812 mg/l Fresh water	Fish	96 hours
maleic anhydride	Acute EC50 >1000 mg/l	Daphnia spec.	4 hours
	Acute LC50 >1000 mg/l	Algae	4 hours
maleic anhydride	Acute LC50 >1000 mg/l	Fish	4 hours
	Acute LC50 230000 µg/l Fresh water	Fish - <i>Gambusia affinis</i> - Adult	96 hours

Conclusion/Summary : Based on available data, the classification criteria are not met.

12.2 Persistence and degradability

SECTION 12: Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
n-butyl acetate	- OECD 301D	90 % - Readily - 28 days 83 % - Readily - 28 days	- -	- -
Ethylacetate	- OECD 301D	80 % - 5 days 70 % - Readily - 28 days	- -	- -
1-methoxy-2-propanol	OECD 301E OECD 301C	96 % - Readily - 28 days 88 to 92 % - Readily - 28 days	- -	- -
	-	>90 % - Readily - 5 days	1,95 gO ₂ /g ThOD	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
n-butyl acetate	-	-	Readily
Ethylacetate	-	-	Readily
1-methoxy-2-propanol	Fresh water <28 days, 5 to 25°C	-	Readily
hydrocarbons, C10-C13, n-/iso-/ cyclo-alkanes, < 2% aromatics	Fresh water <28 days, 5 to 25°C	80%; < 28 day(s)	Readily
hydrocarbons, aromatic, C9	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
dimethyl ether	0,07	-	Low
n-butyl acetate	2,3	10	Low
Ethylacetate	0,68	30	Low
1-methoxy-2-propanol	<1	<100	Low
hydrocarbons, aromatic, C9	3.7 to 4.5	10 to 2500	High
maleic anhydride	-2,78	-	Low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Volatile.

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 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance.

13.1 Waste treatment methods

Product

SECTION 13: Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.





Hazardous waste : Yes.

European waste catalogue (EWC)

Waste code	Waste designation
20 01 27*	paint, inks, adhesives and resins containing hazardous substances

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN1950	UN1950	UN1950	UN1950
14.2 UN proper shipping name	AEROSOLS, flammable	AEROSOLS, flammable	AEROSOLS, flammable	AEROSOLS, flammable
14.3 Transport hazard class(es)	2 	2 	2.1 	2.1 
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	Limited quantity 1L Special provisions 190, 327, 344, 625 Tunnel code (D)	Special provisions 190, 327, 344, 625 Remarks : ≤ 1L: Limited Quantity	Emergency schedules F-D, S-U Special provisions 63, 190, 277, 327, 344, 381, 959 Remarks : ≤ 1L: Limited Quantity - IMDG 3.4	Quantity limitation Passenger and Cargo Aircraft: 75 kg. Packaging instructions: 203. Cargo Aircraft Only: 150 kg. Packaging instructions: 203. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y203. Special provisions A145, A167, A802

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
Decamethylcyclopentasiloxane	≤0,1	70

Labelling : Not applicable.

Other EU regulations

VOC :

VOC for Ready-for-Use Mixture : Exempt

Industrial emissions (integrated pollution prevention and control) - Air : Listed

Industrial emissions (integrated pollution prevention and control) - Water : Listed

Explosive precursors : This product is regulated by Regulation (EU) 2019/1148. All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

Ozone depleting substances (1005/2009/EC)

Not listed.

Prior Informed Consent (PIC) (649/2012/EC)

Not listed.

Persistent Organic Pollutants (850/2004/EC)

Not listed.



Extremely flammable

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

P3a

National regulations

United Kingdom: Northern Ireland

SECTION 15: Regulatory information

References : EH40/2005 Workplace exposure limits
 Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2020/878
 REGULATION (EU) 2016/425 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC

International regulations

Stockholm Convention on Persistent Organic Pollutants

List name	Ingredient name	Status
Not listed.		

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

List name	Ingredient name	Status
Not listed.		

CN code : 3208 10 90 00

Inventory list

- Australia** : At least one component is not listed.
- Canada** : Not determined.
- China** : All components are listed or exempted.
- Eurasian Economic Union** : **Russian Federation inventory**: Not determined.
- Japan** : **Japan inventory (CSCL)**: At least one component is not listed.
Japan inventory (ISHL): At least one component is not listed.
- New Zealand** : All components are listed or exempted.
- Philippines** : All components are listed or exempted.
- Republic of Korea** : At least one component is not listed.
- Taiwan** : Not determined.
- Thailand** : Not determined.
- Turkey** : Not determined.
- United States** : Not determined.
- Viet Nam** : Not determined.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 N/A = Not available
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 SGG = Segregation Group
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

SECTION 16: Other information

Classification	Justification
Aerosol 1, H222, H229 Eye Irrit. 2, H319 STOT SE 3, H336	Expert judgment Expert judgment Expert judgment

Full text of abbreviated H statements

United Kingdom: Northern Ireland

Full text of abbreviated H statements	:	<p>H220 Extremely flammable gas.</p> <p>H222, H229 Extremely flammable aerosol. Pressurised container: may burst if heated.</p> <p>H225 Highly flammable liquid and vapour.</p> <p>H226 Flammable liquid and vapour.</p> <p>H280 Contains gas under pressure; may explode if heated.</p> <p>H302 Harmful if swallowed.</p> <p>H304 May be fatal if swallowed and enters airways.</p> <p>H314 Causes severe skin burns and eye damage.</p> <p>H317 May cause an allergic skin reaction.</p> <p>H318 Causes serious eye damage.</p> <p>H319 Causes serious eye irritation.</p> <p>H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.</p> <p>H335 May cause respiratory irritation.</p> <p>H336 May cause drowsiness or dizziness.</p> <p>H372 Causes damage to organs through prolonged or repeated exposure.</p> <p>H411 Toxic to aquatic life with long lasting effects.</p> <p>EUH018 In use may form flammable/explosive vapour-air mixture.</p> <p>EUH066 Repeated exposure may cause skin dryness or cracking.</p> <p>EUH071 Corrosive to the respiratory tract.</p>
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Full text of classifications [CLP/GHS]

:	<p>Acute Tox. 4 ACUTE TOXICITY - Category 4</p> <p>Aerosol 1 AEROSOLS - Category 1</p> <p>Aquatic Chronic 2 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2</p> <p>Asp. Tox. 1 ASPIRATION HAZARD - Category 1</p> <p>Eye Dam. 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1</p> <p>Eye Irrit. 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2</p> <p>Flam. Gas 1A FLAMMABLE GASES - Category 1A</p> <p>Flam. Liq. 2 FLAMMABLE LIQUIDS - Category 2</p> <p>Flam. Liq. 3 FLAMMABLE LIQUIDS - Category 3</p> <p>Press. Gas (Comp.) GASES UNDER PRESSURE - Compressed gas</p> <p>Resp. Sens. 1 RESPIRATORY SENSITISATION - Category 1</p> <p>Skin Corr. 1B SKIN CORROSION/IRRITATION - Category 1B</p> <p>Skin Sens. 1A SKIN SENSITISATION - Category 1A</p> <p>STOT RE 1 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1</p> <p>STOT SE 3 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3</p>
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Date of printing : 29/09/2023

Date of issue/ Date of revision : 29/09/2023

Date of previous issue : 8/05/2023

Version : 6

Notice to reader

SECTION 16: Other information

IMPORTANT NOTE: The information in this Safety Data Sheet is based on the present state of knowledge and current legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications. The information contained in this data sheet (as may be amended from time to time) is not intended to be exhaustive and is presented in good faith and believed to be correct as of the date on which it is prepared. It is the user's responsibility to verify that this data sheet is current prior to using the product to which it relates. Persons using the information must make their own determinations as to the suitability of the relevant product for their purposes prior to use. Where those purposes are other than as specifically recommended in this safety data sheet, then the user uses the product at their own risk.

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.