



# SAFETY DATA SHEET

2117 Hard-Hat<sup>®</sup> Bright Galvanizing

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

### 1.1 Product identifier

**Product name** : 2117 Hard-Hat<sup>®</sup> Bright Galvanizing  
**Product description** : Aerosol. Paint.  
**Product type** : Aerosol.

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

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

### 1.3 Details of the supplier of the safety data sheet

Rust-Oleum Europe - Martin Mathys NV, Kolenbergstraat 23, B-3545 Zelem, Belgium  
 Telephone no.: +32 (0) 13 460 200  
 Fax no.: +32 (0) 13 460 201

**e-mail address of person responsible for this SDS** : rpmeurohas@ro-m.com

### 1.4 Emergency telephone number

#### Supplier

**Telephone number** : +44 (0) 207 858 1228  
**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  
 Skin Irrit. 2, H315  
 Eye Irrit. 2, H319  
 STOT RE 2, H373  
 Aquatic Acute 1, H400 (M=1)  
 Aquatic Chronic 1, H410 (M=1)

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

## SECTION 2: Hazards identification

**Hazard pictograms**



**Signal word**

: Danger

**Hazard statements**

: Extremely flammable aerosol.  
 Pressurised container: May burst if heated.  
 Causes serious eye irritation.  
 Causes skin irritation.  
 May cause damage to organs through prolonged or repeated exposure.  
 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

**General**

: P102 - Keep out of reach of children.  
 P103 - Read label before use.  
 P101 - If medical advice is needed, have product container or label at hand.

**Prevention**

: P210 - Keep away from heat, sparks, open flames and hot surfaces. - No smoking.  
 P211 - Do not spray on an open flame or other ignition source.  
 P271 - Use only outdoors or in a well-ventilated area.  
 P260 - Do not breathe vapour or spray.  
 P280 - Wear protective gloves and eye protection:  
 - nitrile rubber gloves and Safety glasses with side shields.  
 P273 - Avoid release to the environment.  
 P251 - Do not pierce or burn, even after use.

**Response**

: P314 - Get medical attention if you feel unwell.  
 P391 - Collect spillage.

**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**

: xylene (mixture of isomeres)

**Supplemental label elements**

: Not applicable.

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

: Not applicable.

**UFI Code**

: 1T10-S01C-U00S-QFA6

**Special packaging requirements**

**Containers to be fitted with child-resistant fastenings**

: Not applicable.

**Tactile warning of danger**

: Yes, applicable.

**2.3 Other hazards**

**Other hazards which do not result in classification**

: None known.

**SECTION 3: Composition/information on ingredients****3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	%	Classification	
			Regulation (EC) No. 1272/2008 [CLP]	Type
dimethyl ether	EC: 204-065-8 CAS: 115-10-6	≥50 - ≤75	Flam. Gas 1, H220	[2]
zinc powder, stabilised	REACH #: 01-2119467174-37 EC: 231-175-3 CAS: 7440-66-6 Index: 030-001-01-9	≥25 - ≤50	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	[1]
xylene (mixture of isomers)	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7	≥10 - ≤25	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 Flam. Sol. 1, H228 Water-react. 2, H261	[1] [2]
aluminium powder (stabilized)	EC: 231-072-3 CAS: 7429-90-5 Index: 013-002-00-1	≤5	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	[2]
hydrocarbons, aromatic, C9	REACH #: 01-2119455851-35 EC: 918-668-5 CAS: 64742-95-6 Index: 649-356-00-4	≤5	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	[1]
ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	≤3	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304	[1] [2]
zinc oxide	REACH #: 01-2119463881-32 EC: 215-222-5 CAS: 1314-13-2 Index: 030-013-00-7	≤3	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	[1]
Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates	EC: 269-662-8 CAS: 68308-64-5	≤1	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=1)	[1]
			<b>See Section 16 for the full text of the H statements declared above.</b>	

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.

Type

- [1] Substance classified with a health or environmental hazard  
 [2] Substance with a workplace exposure limit  
 [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII  
 [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII  
 [5] Substance of equivalent concern  
 [6] Additional disclosure due to company policy

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

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.
- Eye contact** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. 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

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

See toxicological information (Section 11)

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Recommended: alcohol-resistant foam, CO<sub>2</sub>, powders, water spray.
- Unsuitable extinguishing media** : Do not use water jet.

### 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. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
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. 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### 6.3 Methods and material for containment and cleaning up

## SECTION 6: Accidental release measures

- 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** : Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear antistatic footwear and clothing and floors should be of the conducting type. Keep away from heat, sparks and flame. No sparking tools should be used. Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Put on appropriate personal protective equipment (see Section 8). Never use pressure to empty. Container is not a pressure vessel. Always keep in containers made from the same material as the original one. Comply with the health and safety at work laws. Do not allow to enter drains or watercourses.
- Information on fire and explosion protection**  
Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.
- When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.

**Notes on joint storage**

Keep away from: oxidising agents, strong alkalis, strong acids.

**Additional information on storage conditions**

Observe label precautions. Do not store above the following temperature: 35°C (95°F). Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent



## SECTION 7: Handling and storage

leakage.

### Seveso Directive - Reporting thresholds (in tonnes)

#### Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P3a	150	500
E1	100	200

### 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

Product/ingredient name	Exposure limit values
dimethyl ether	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> STEL: 958 mg/m <sup>3</sup> 15 minutes. STEL: 500 ppm 15 minutes. TWA: 766 mg/m <sup>3</sup> 8 hours. TWA: 400 ppm 8 hours.
xylene (mixture of isomeres)	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin.</b> STEL: 441 mg/m <sup>3</sup> 15 minutes. STEL: 100 ppm 15 minutes. TWA: 220 mg/m <sup>3</sup> 8 hours. TWA: 50 ppm 8 hours.
aluminium powder (stabilized)	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: inhalable dust TWA: 4 mg/m <sup>3</sup> 8 hours. Form: respirable dust
ethylbenzene	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin.</b> STEL: 552 mg/m <sup>3</sup> 15 minutes. STEL: 125 ppm 15 minutes. TWA: 441 mg/m <sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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

## SECTION 8: Exposure controls/personal protection

Product/ingredient name	Type	Exposure	Value	Population	Effects
zincpowder, stabilised	DNEL	Long term Inhalation	5 mg/m <sup>3</sup>	Workers	-
	DNEL	Inhalation	2,5 mg/m <sup>3</sup>	Workers	Local
	DNEL	Short term Oral	50 mg/day	Workers	Local
	DNEL	Short term Dermal	5000 mg/day	Workers	Local
xylene (mixture of isomeres)	DNEL	Short term Inhalation	289 mg/m <sup>3</sup>	Workers	Local
	DNEL	Short term Inhalation	289 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	77 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	180 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Inhalation	174 mg/m <sup>3</sup>	Consumers	Local
	DNEL	Short term Inhalation	174 mg/m <sup>3</sup>	Consumers	Systemic
	DNEL	Long term Inhalation	14,8 mg/m <sup>3</sup>	Consumers	Systemic
	DNEL	Long term Dermal	108 mg/m <sup>3</sup>	Consumers	Systemic
ethylbenzene	DNEL	Long term Inhalation	77 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	180 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	15 mg/m <sup>3</sup>	Consumers	Systemic
	DNEL	Long term Oral	1,6 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Oral	0,83 mg/kg bw/day	Consumers	Systemic
zinc oxide	DNEL	Long term Inhalation	5 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	2,5 mg/m <sup>3</sup>	Consumers	Systemic
	DNEL	Long term Dermal	83 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	83 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Oral	0,83 mg/kg bw/day	Consumers	Systemic

### PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
zincpowder, stabilised	Fresh water	20,6 µg/l	-
	Marine	6,1 µg/l	-
	Sewage Treatment Plant	52 µg/l	-
	Fresh water sediment	118 mg/kg dwt	-
	Marine water sediment	56,5 mg/kg dwt	-
xylene (mixture of isomeres)	Soil	35,6 mg/kg dwt	-
	Fresh water	0,327 mg/l	-
	Marine water	0,327 mg/l	-
	Fresh water sediment	12,46 mg/kg	-
	Marine water sediment	12,46 mg/kg	-
	Soil	2,31 mg/kg	-
ethylbenzene	Sewage Treatment Plant	6,58 mg/l	-
	Fresh water	0,1 mg/l	-
	Marine water	0,01 mg/l	-
	Fresh water sediment	13,7 mg/kg	-
	Marine water sediment	1,37 mg/kg	-
	Soil	2,68 mg/kg	-
	Sewage Treatment Plant	9,6 mg/l	-



## SECTION 8: Exposure controls/personal protection

zinc oxide	Plant		
	Fresh water	25,6 µg/l	-
	Marine	7,6 µg/l	-
	Sewage Treatment	64,7 µg/l	-
	Plant		
	Fresh water sediment	146 mg/kg dwt	-
	Marine water sediment	70,3 mg/kg dwt	-
	Soil	44,3 mg/kg dwt	-

### 8.2 Exposure controls

**Appropriate engineering controls** : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn.

#### 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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Recommended: safety glasses with side-shields (EN 166)

#### Skin protection

##### Hand 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.

**Gloves** : For prolonged or repeated handling, use the following type of gloves:

Recommended: > 8 hours (breakthrough time): nitrile rubber (0.5mm)

The recommendation for the type or types of glove to use when handling this product is based on information from the following source:

EN 374

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: disposable overall (EN 1149-1).

**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 A) and particulate filter (EN 141).
- 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****9.1 Information on basic physical and chemical properties****Appearance**

- Physical state** : Liquid. [Aerosol.]
- Colour** : Silvery.
- Odour** : Hydrocarbon.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flash point** : Closed cup: -40°C
- Evaporation rate** : >1 (butyl acetate = 1)
- Flammability (solid, gas)** : Highly 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.  
Vapour may travel a considerable distance to source of ignition and flash back.  
Container explosion may occur under fire conditions or when heated.
- Upper/lower flammability or explosive limits** : Lower: 3%  
Upper: 18%
- Vapour pressure** : 420 kPa [room temperature]
- Vapour density** : >1 [Air = 1]
- Relative density** : 0,99
- Solubility(ies)** : Insoluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/ water** : Not available.
- Auto-ignition temperature** : 350°C
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- 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. 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.

**9.2 Other information**

- Type of aerosol** : Spray
- Heat of combustion** : 20,87 kJ/g

No additional information.

**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** : Stable under recommended storage and handling conditions (see Section 7).
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products.
- 10.5 Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced. If involved in a fire, toxic gases including CO, CO<sub>2</sub> and smoke can be generated.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****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 <sup>3</sup>	1 hours
	LC50 Inhalation Gas.	Rat	164000 ppm	4 hours
	LC50 Inhalation Vapour	Rat	309 g/m <sup>3</sup>	4 hours
xylene (mixture of isomeres)	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LC50 Inhalation Gas.	Rat	6670 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
	TDLo Dermal	Rabbit	4300 mg/kg	-
hydrocarbons, aromatic, C9	LD50 Oral	Mouse	8400 mg/kg	-
	LD50 Oral	Rat	8400 mg/kg	-
ethylbenzene	LC50 Inhalation Vapour	Rat	50000 mg/m <sup>3</sup>	2 hours
	LCLo Inhalation Vapour	Rat	4000 ppm	4 hours
zinc oxide	LD50 Oral	Rat	3500 mg/kg	-
	LC50 Inhalation Dusts and mists	Mouse	2500 mg/m <sup>3</sup>	4 hours
	LC50 Inhalation Dusts and mists	Rat	>5700 mg/m <sup>3</sup>	4 hours
Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates	LD50 Oral	Rat	>15 g/kg	-
	LD50 Oral	Rat	608 mg/kg	-

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

**Acute toxicity estimates**

Not available.

**Irritation/Corrosion**

## SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
zincpowder, stabilised	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
xylene (mixture of isomeres)	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
hydrocarbons, aromatic, C9	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
ethylbenzene	Skin - Moderate irritant	Rabbit	-	100 Percent	-
	Eyes - Mild irritant	Rabbit	-	24 hours 100 microliters	-
zinc oxide	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Visible necrosis	Rabbit	-	4 hours	24 hours

### Conclusion/Summary

- Skin** : Causes skin irritation.  
**Eyes** : Causes serious eye irritation.  
**Respiratory** : May cause damage to organs through prolonged or repeated exposure if inhaled.

### 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

Product/ingredient name	Test	Experiment	Result
hydrocarbons, aromatic, C9	OECD 471	Subject: Bacteria	Negative

- 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
xylene (mixture of isomeres)	Category 3	Not applicable.	Respiratory tract irritation
hydrocarbons, aromatic, C9	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
xylene (mixture of isomeres)	Category 2	Not determined	Not determined
ethylbenzene	Category 2	Not determined	hearing organs

### Aspiration hazard

Product/ingredient name	Result
xylene (mixture of isomeres)	ASPIRATION HAZARD - Category 1
hydrocarbons, aromatic, C9	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1

### 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

**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** : May cause damage to organs through prolonged or repeated exposure.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Other information** : Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

There are no data available on the mixture itself.  
Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

## SECTION 12: Ecological information

Product/ingredient name	Result	Species	Exposure
zincpowder, stabilised	Acute EC50 106 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute EC50 0,572 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 10000 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute LC50 107 µg/l Fresh water	Daphnia spec. - Daphnia pulex	48 hours
	Acute LC50 182 µg/l Fresh water	Fish - Oncorhynchus tshawytscha	96 hours
	Chronic EC10 27,3 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Chronic EC10 59,2 µg/l Fresh water	Daphnia spec. - Daphnia magna	21 days
	Chronic NOEC 9 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 178 µg/l Marine water	Crustaceans - Palaemon elegans	21 days
	ethylbenzene	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata
Acute EC50 9,46 to 6530 µg/l Fresh water		Crustaceans - Artemia sp. - Nauplii	48 hours
Acute EC50 4,4 to 2970 µg/l Fresh water		Daphnia spec. - Daphnia magna - Neonate	48 hours
Acute LC50 13,7 to 8780 µg/l Fresh water		Crustaceans - Artemia sp. - Nauplii	48 hours
Acute LC50 5200 µg/l Marine water		Crustaceans - Americamysis bahia	48 hours
Acute LC50 11 to 9090 µg/l Fresh water		Fish - Pimephales promelas	96 hours
Acute LC50 4200 µg/l Fresh water		Fish - Oncorhynchus mykiss	96 hours
Chronic NOEC 1000 µg/l Fresh water		Algae - Pseudokirchneriella subcapitata	96 hours

**Conclusion/Summary** : Very toxic to aquatic life with long lasting effects.

### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
xylene (mixture of isomeres)	-	90 % - Readily - 5 days	-	-

**Conclusion/Summary** : This product has not been tested for biodegradation.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene (mixture of isomeres)	-	-	Readily
hydrocarbons, aromatic, C9	-	-	Readily
ethylbenzene	-	-	Readily
Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
dimethyl ether	0,07	-	low
xylene (mixture of isomeres)	3,12	8.1 to 25.9	low
hydrocarbons, aromatic, C9	3.7 to 4.5	-	high
ethylbenzene	3,6	-	low
zinc oxide	-	60960	high



## SECTION 12: Ecological information

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Volatile.

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.

**vPvB** : Not applicable.

**12.6 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

**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.

**Disposal considerations** : Do not allow to enter drains or watercourses. Dispose of according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

#### European waste catalogue (EWC)

The European Waste Catalogue classification of this product, when disposed of as waste, is:

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

#### Packaging



**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Disposal considerations** : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.

**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

## SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
<b>14.1 UN number</b>	UN 1950	UN1950	UN 1950	UN 1950
<b>14.2 UN proper shipping name</b>	AEROSOLS, Flammable [Limited quantity]	AEROSOLS, Flammable [ Limited quantity]	AEROSOLS, Flammable, Marine pollutant [ zinc powder, stabilized] [ Limited quantity]	AEROSOLS, Flammable
<b>14.3 Transport hazard class(es)</b>	2	2	2.1	2.1  
<b>14.4 Packing group</b>	-	-	-	-
<b>14.5 Environmental hazards</b>	Yes.	Yes.	Yes.	Yes.
<b>Additional information</b>	<p><b>Limited quantity:</b> LQ2</p> <p><b>Remarks:</b> (≤ 1L: ) Limited Quantity - ADR/IMDG 3.4</p> <p>ADR Tunnel code: (D)</p>		<p><b>Emergency schedules (EmS):</b> F-D + S-U</p> <p><b>Remarks:</b> Limited Quantity - ADR/IMDG 3.4</p>	<p><b>Passenger and Cargo Aircraft</b> Quantity limitation: 75 kg Packaging instructions: 203</p> <p><b>Cargo Aircraft Only</b> Quantity limitation: 150 kg Packaging instructions: 203</p> <p><b>Limited Quantities - Passenger Aircraft</b> Quantity limitation: 30 kg Packaging instructions: Y 203</p>

**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.

## 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.

## SECTION 15: Regulatory information

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

### Other EU regulations

**VOC for Ready-for-Use Mixture** : Not available.

**Europe inventory** : All components are listed or exempted.

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

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

### Ozone depleting substances (1005/2009/EU)

Not listed.

### Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

**Aerosol dispensers** :

3



Extremely flammable

### Seveso Directive

This product is controlled under the Seveso Directive.

### Danger criteria

Category
P3a E1

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

**References** : EH40/2005 Workplace exposure limits  
Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2016/918

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol (Annexes A, B, C, E)

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

## SECTION 15: Regulatory information

Not listed.

### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

**CN code** : 3208 90 19

### International lists

#### National inventory

<b>Australia</b>	: Not determined.
<b>Canada</b>	: Not determined.
<b>China</b>	: At least one component is not listed.
<b>Japan</b>	: <b>Japan inventory (ENCS)</b> : Not determined. <b>Japan inventory (ISHL)</b> : Not determined.
<b>Malaysia</b>	: Not determined.
<b>New Zealand</b>	: Not determined.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: Not determined.

**15.2 Chemical safety assessment** : No Chemical Safety Assessment has been carried out.

## SECTION 16: Other information

 Indicates information that has changed from previously issued version.

<b>Abbreviations and acronyms</b>	: 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 PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number vPvB = Very Persistent and Very Bioaccumulative
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### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Aerosol 1, H222, H229	Expert judgment
Skin Irrit. 2, H315	Expert judgment
Eye Irrit. 2, H319	Expert judgment
STOT RE 2, H373	Expert judgment
Aquatic Acute 1, H400 (M=1)	Expert judgment
Aquatic Chronic 1, H410 (M=1)	Expert judgment

### Full text of H-phrases referred to in sections 2 and 3

## SECTION 16: Other information

<b>Full text of abbreviated H statements</b>	: H220 H222, H229  H225 H226 H228 H261 H302 H304 H312 H314 H315 H318 H319 H332 H335 H336 H373  H400 H410 H411	Extremely flammable gas. Extremely flammable aerosol. Pressurised container: May burst if heated. Highly flammable liquid and vapour. Flammable liquid and vapour. Flammable solid. In contact with water releases flammable gases. Harmful if swallowed. May be fatal if swallowed and enters airways. Harmful in contact with skin. Causes severe skin burns and eye damage. Causes skin irritation. Causes serious eye damage. Causes serious eye irritation. Harmful if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. Toxic to aquatic life with long lasting effects.
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<b>Full text of classifications [CLP/GHS]</b>	: Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Aerosol 1, H222, H229 Aquatic Acute 1, H400  Aquatic Chronic 1, H410  Aquatic Chronic 2, H411  Asp. Tox. 1, H304 EUH066 Eye Dam. 1, H318 Eye Irrit. 2, H319 Flam. Gas 1, H220 Flam. Liq. 2, H225 Flam. Liq. 3, H226 Flam. Sol. 1, H228 Skin Corr. 1B, H314 Skin Irrit. 2, H315 STOT RE 2, H373  STOT SE 3, H335  STOT SE 3, H336  Water-react. 2, H261	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 AEROSOLS - Category 1 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 ASPIRATION HAZARD - Category 1 Repeated exposure may cause skin dryness or cracking. SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE GASES - Category 1 FLAMMABLE LIQUIDS - Category 2 FLAMMABLE LIQUIDS - Category 3 FLAMMABLE SOLIDS - Category 1 SKIN CORROSION/IRRITATION - Category 1B SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3 SUBSTANCES AND MIXTURES WHICH IN CONTACT WITH WATER EMIT FLAMMABLE GASES - Category 2
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**Notice to reader**

## SECTION 16: Other information

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 product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant legislation are complied with. The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation.