



SAFETY DATA SHEET

2185 Hard-Hat® Cold Galvanizing Compound

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

1.1 Product identifier

Product name : 2185 Hard-Hat® Cold Galvanizing Compound
Product description : Paint Aerosol.
Product type : Aerosol.
UFI : F6R1-H02H-P00N-7PSJ

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

Supplier

Telephone number United Kingdom: : +44 870 8200418 / +44 2038073798
 Great Britain

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]

SECTION 2: Hazards identification

Aerosol 1, H222, H229
 Eye Irrit. 2, H319
 STOT SE 3, H336
 Aquatic Acute 1, H400
 Aquatic Chronic 1, H410

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.
 H410 - Very toxic to aquatic life with long lasting effects.

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.
 P273 - Avoid release to the environment.
 P251 - Do not pierce or burn, even after use.

Response

: 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

: acetone
 n-butyl acetate

Supplemental label elements

: EUH066 - Repeated exposure may cause skin dryness or cracking.
 EUH208 - Contains 4-morpholinecarbaldehyde and Fatty acids, tall-oil, compds. with oleylamine. 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.

Tactile warning of danger

: Not applicable.

SECTION 2: Hazards identification

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: Great Britain

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Zinc powder - zinc dust (stabilized)	REACH #: 01-2119467174-37 EC: 231-175-3 CAS: 7440-66-6 Index: 030-001-01-9	≥25 - ≤50	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
liquefied petroleum gas	REACH #: Annex V EC: 270-704-2 CAS: 68476-85-7 Index: 649-202-00-6	≥10 - ≤25	Flam. Gas 1A, H220 Press. Gas (Liq.), H280	-	[2]
acetone	REACH #: 01-2119471330-49 EC: 200-662-2 CAS: 67-64-1 Index: 606-001-00-8	≥10 - <20	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	-	[1] [2]
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≤5	Flam. Liq. 3, H226 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	≤3	Flam. Liq. 3, H226 STOT SE 3, H336	-	[1] [2]
Ethylacetate	REACH #: 01-2119475103-46 EC: 205-500-4 CAS: 141-78-6 Index: 607-022-00-5	≤3	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	-	[1] [2]
4-morpholinecarbaldehyde	REACH #: 01-2119987993-12 EC: 224-518-3 CAS: 4394-85-8	≤1	Skin Sens. 1B, H317	-	[1]
Fatty acids, tall-oil, compds. with oleylamine	REACH #: 01-2119974148-28 EC: 288-315-1 CAS: 85711-55-3	≤0,1	Eye Dam. 1, H318 Skin Sens. 1A, H317 STOT RE 2, H373 (oral)	-	[1]

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.
- 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
- Inhalation** : Adverse symptoms may include the following:
 respiratory tract irritation
 coughing
 nausea or vomiting
 headache
 drowsiness/fatigue
 dizziness/vertigo
 unconsciousness

SECTION 4: First aid measures

- 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** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- 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. 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 combustion 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. 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). 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

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. Avoid release to the environment. 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.

SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

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
E1	100 tonne	200 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

United Kingdom: Great Britain

Product/ingredient name	Exposure limit values
liquefied petroleum gas	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 2180 mg/m ³ 15 minutes. STEL: 1250 ppm 15 minutes. TWA: 1750 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours.
acetone	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 3620 mg/m ³ 15 minutes. STEL: 1500 ppm 15 minutes. TWA: 500 ppm 8 hours. TWA: 1210 mg/m ³ 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.
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.
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.

SECTION 8: Exposure controls/personal protection

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

Product/ingredient name	Type	Exposure	Value	Population	Effects	
Zinc powder - zinc dust (stabilized)	DNEL	Long term Inhalation	5 mg/m ³	Workers	Local	
	DNEL	Long term Inhalation	2,5 mg/m ³	Workers	Local	
	DNEL	Short term Oral	50 mg/day	Workers	Local	
	DNEL	Short term Dermal	5000 mg/day	Workers	Local	
	acetone	DNEL	Long term Oral	62 mg/kg bw/day	General population	Systemic
		DNEL	Long term Dermal	62 mg/kg bw/day	General population	Systemic
		DNEL	Long term Dermal	186 mg/kg bw/day	Workers	Systemic
DNEL		Long term Inhalation	200 mg/m ³	General population	Systemic	
DNEL		Long term Inhalation	1210 mg/m ³	Workers	Systemic	
DNEL		Short term Inhalation	2420 mg/m ³	Workers	Local	
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	General	Systemic	

SECTION 8: Exposure controls/personal protection

1-methoxy-2-propanol	DNEL	Short term Inhalation	553,5 mg/m ³	bw/day	population [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 [Consumers]	Systemic
	DNEL	Long term Dermal	18,1 mg/kg bw/day		General population [Consumers]	Systemic
	DNEL	Long term Oral	3,3 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 [Consumers]	Systemic
	DNEL	Long term Dermal	37 mg/kg bw/day		General population [Consumers]	Systemic
DNEL	Long term Oral	4,5 mg/kg bw/day		General population [Consumers]	Systemic	

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
Zinc powder - zinc dust (stabilized)	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	-
n-butyl acetate	Soil	35,6 mg/kg dwt	-
	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	35,6 mg/l	-

SECTION 8: Exposure controls/personal protection

1-methoxy-2-propanol	Plant		
	Fresh water	10 mg/l	-
	Fresh water sediment	41,6 mg/l	-
	Marine water sediment	4,17 mg/l	-
	Soil	2,47 mg/l	-
Ethylacetate	Sewage Treatment	100 mg/l	-
	Plant		
	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	-
2-methoxy-1-methylethyl acetate	Sewage Treatment	650 mg/l	-
	Plant		
	Fresh water	0,635 mg/l	-
	Fresh water sediment	3,29 mg/kg	-
	Marine water sediment	0,329 mg/kg	-
	Soil	0,29 mg/kg	-
	Sewage Treatment	100 mg/l	-
	Plant		
	Marine water	0,0635 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), Butyl rubber gloves (0.60mm)

SECTION 8: Exposure controls/personal protection

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.
- 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 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** : Dark grey.
- Odour** : Solvent-like [Slight]
- Odour threshold** : Not available.

Melting point/freezing point : Not available.

Initial boiling point and boiling range : Not available.

Ingredient name	°C	°F	Method
liquefied petroleum gas	-161,48	-258,7	Literature

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.
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: -70°C (-94°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 : Not available.

SECTION 9: Physical and chemical properties**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

: 400 kPa (3000 mm Hg) [calculated.]

Evaporation rate

: >1 (butyl acetate = 1)

Relative density

: Not available.

Density: 1,115 g/cm³ [20°C (68°F)] [DIN 53217]**Vapour density**

: >1 [Air = 1]

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**

: 8,25 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**

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
acetone	LD50 Dermal	Guinea pig	>7400 mg/kg	-
	LD50 Dermal	Rabbit	>7400 mg/kg	-
	LD50 Oral	Rat	5800 mg/kg	-
n-butyl acetate	LC50 Inhalation Dusts and mists	Rat - Male, Female	23,4 mg/l	4 hours
	LC50 Inhalation Vapour	Rat	>21 mg/l	4 hours
1-methoxy-2-propanol	LC50 Inhalation Vapour	Rat	9700 mg/m ³	4 hours
	LD50 Oral	Rat	14000 mg/kg	-
	LC50 Inhalation Vapour	Rat	30,02 mg/l	4 hours
	LD50 Dermal	Rabbit	13 g/kg	-
	LD50 Oral	Mouse	11700 mg/kg	-
	LD50 Oral	Rat - Male, Female	4016 mg/kg	-
Ethylacetate	LC50 Inhalation Vapour	Rat	>22,5 mg/l	6 hours
	LD50 Oral	Mouse	4100 mg/kg	-
	LD50 Oral	Rabbit	4935 mg/kg	-
4-morpholinecarbaldehyde	LD50 Oral	Rat	5620 mg/kg	-
	LD50 Dermal	Rabbit	>18400 mg/kg	-
	LD50 Oral	Rat	>7314 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)
n-butyl acetate	N/A	N/A	N/A	N/A	23,4

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Zinc powder - zinc dust (stabilized)	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
acetone	Eyes - Severe irritant	Rabbit	-	20 mg	-

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

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
acetone	Category 3	-	Narcotic effects
n-butyl acetate	Category 3	-	Narcotic effects
1-methoxy-2-propanol	Category 3	-	Narcotic effects
Ethylacetate	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Fatty acids, tall-oil, compds. with oleylamine	Category 2	oral	-

Aspiration hazard

Not available.

Information on likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.
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

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

Potential chronic health effects

Not available.

SECTION 11: Toxicological information

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
Zinc powder - zinc dust (stabilized)	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
	acetone	Acute LC50 8098000 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate
Acute LC50 7280000 µg/l Fresh water		Fish - Pimephales promelas	96 hours
Chronic NOEC 0,5 ml/L Marine water		Algae - Karenia brevis	96 hours
Chronic NOEC 0,016 ml/L Fresh water		Crustaceans - Daphniidae	21 days
Chronic NOEC 1 g/L Fresh water		Daphnia spec. - Daphnia magna	21 days
Chronic NOEC 5 µg/l Marine water		Fish - Gasterosteus aculeatus - Larvae	42 days
n-butyl acetate	Acute EC50 397 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute EC50 44 mg/l Fresh water	Daphnia spec.	48 hours
	Acute LC50 18 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 23 mg/l Fresh water	Daphnia spec.	21 days
1-methoxy-2-propanol	Acute EC50 >1000 mg/l	Algae - Selenastrum capricomutum	7 days
	Acute EC50 23300 mg/l	Daphnia spec.	96 hours
Ethylacetate	Acute LC50 6812 mg/l Fresh water	Fish	96 hours
	Acute EC50 5600 mg/l	Algae - Scenedesmus subspicatus	72 hours
	Acute EC50 165 mg/l Fresh water	Daphnia spec. - Daphnia Cucullata	48 hours
4-morpholinecarbaldehyde	Acute LC50 230 mg/l Fresh water	Fish - Pimephales promelas	48 hours
	Chronic NOEC 2,4 mg/l Fresh water	Daphnia spec. - Daphnia magna	21 days
	Chronic NOEC 6,9 mg/l Fresh water	Fish - Pimephales promelas	6,9 hours
	EC50 23,88 mg/l	Algae	72 hours

SECTION 12: Ecological information

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

12.2 Persistence and degradability

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

Conclusion/Summary : This product has not been tested for biodegradation. Based on available data, the classification criteria are not met.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
acetone	-	-	Readily
n-butyl acetate	-	-	Readily
1-methoxy-2-propanol	Fresh water <28 days, 5 to 25°C	-	Readily
Ethylacetate	-	-	Readily
4-morpholinecarbaldehyde	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
acetone	-0,23	-	low
n-butyl acetate	2,3	10	low
1-methoxy-2-propanol	<1	<100	low
Ethylacetate	0,68	30	low
4-morpholinecarbaldehyde	-	<1.9	low

12.4 Mobility in soil

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

Mobility : Volatile. This product is likely to volatilise rapidly into the air because of its high vapour pressure.

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

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. Marine pollutant	AEROSOLS, flammable
14.3 Transport hazard class(es)	2  	2  	2.1  	2.1 
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Additional information	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Limited quantity : ≤1 L Tunnel code (D)	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules F-D, S-U Remarks : ≤ 1L: Limited Quantity - IMDG 3.4	The environmentally hazardous substance mark may appear if required by other transportation regulations. 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.

SECTION 14: Transport information

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

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

National regulations

United Kingdom: Great Britain

UK (GB) /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.

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

Aerosol dispensers

: **UK
CA**

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

P3a
E1

SECTION 15: Regulatory information

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

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 90 91 00

Inventory list

Australia	: Not determined.
Canada	: Not determined.
China	: At least one component is not listed.
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	: At least one component is not listed.
Philippines	: Not determined.
Republic of Korea	: At least one component is not listed.
Taiwan	: Not determined.
Thailand	: Not determined.
Turkey	: At least one component is not listed.
United States	: At least one component is not listed.
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 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	Expert judgment Expert judgment Expert judgment Expert judgment Expert judgment

[Full text of abbreviated H statements](#)

United Kingdom: Great Britain

Full text of abbreviated H statements

H220	Extremely flammable gas.
H222, H229	Extremely flammable aerosol. Pressurised container: may burst if heated.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of classifications [CLP/GHS]

Aerosol 1	AEROSOLS - Category 1
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Gas 1A	FLAMMABLE GASES - Category 1A
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Press. Gas (Liq.)	GASES UNDER PRESSURE - Liquefied gas
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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Notice to reader

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.

MANUFACTURER'S DISCLAIMER: the conditions, methods and factors affecting the handling, storage, application, use and disposal of the product are not under the control and knowledge of the manufacturer.

SECTION 16: Other information

Therefore the manufacturer does not assume responsibility for any adverse events which may occur in the handling, storage, application, use, misuse or disposal of the product and, so far as permitted by applicable law, the manufacturer expressly disclaims liability for any and all loss, damages and/or expenses arising out of or in any way connected to the storage, handling, use or disposal of the product. Safe handling, storage, use and disposal are the responsibility of the users. Users must comply with all applicable health and safety laws.

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.