



# SAFETY DATA SHEET

2169 & 2182 Hard-Hat Primers

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

### 1.1 Product identifier

**Product name** : 2169 & 2182 Hard-Hat Primers  
**Product description** : Aerosol. Paint  
**Product type** : Aerosol.  
**UFI** : 8CU1-70M7-000Y-QAAX

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

Identified uses	
Consumer Industrial Professional	
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

Tor Coatings Limited  
Unit 21, White Rose Way, Follingsby Park, Gateshead, Tyne & Wear, NE10 8YX United Kingdom  
Telephone no.: +44 (0) 191 4106611  
Fax no.: +44 (0) 191 4920125  
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 UK CLP/GHS

Aerosol 1, H222, H229  
STOT SE 3, H336

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

## SECTION 2: Hazards identification

**Ingredients of unknown toxicity** : 5 percent of the mixture consists of component(s) of unknown acute oral toxicity  
 5 percent of the mixture consists of component(s) of unknown acute dermal toxicity  
 5 percent of the mixture consists of component(s) of unknown acute inhalation toxicity

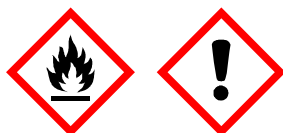
**Ingredients of unknown ecotoxicity** : Contains 5% of components with unknown hazards to the aquatic environment

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.  
 H336 - May cause drowsiness or dizziness.

**Precautionary statements**

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

**Prevention** : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P211 - Do not spray on an open flame or other ignition source.  
 P271 - Use only outdoors or in a well-ventilated area.  
 P251 - Do not pierce or burn, even after use.

**Response** : Not applicable.

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

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

**Hazardous ingredients** : n-butyl acetate  
 Ethylacetate  
 1-methoxy-2-propanol

**Supplemental label elements** : EUH208 - Contains 3-aminopropyltriethoxysilane. May produce an allergic reaction.  
 EUH211 - Warning! Hazardous respirable droplets may be formed when sprayed.  
 Do not breathe spray or mist.

**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.

### 2.3 Other hazards

2169 & 2182 Hard-Hat Primers

## SECTION 2: Hazards identification

**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

Product/ingredient name	Identifiers	%	Classification	Type
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≤14	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	[1]
Ethylacetate	REACH #: 01-2119475103-46 EC: 205-500-4 CAS: 141-78-6 Index: 607-022-00-5	≤5,3	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	[1] [2]
1-methoxy-2-propanol	REACH #: 01-2119457435-35 EC: 203-539-1 CAS: 107-98-2 Index: 603-064-00-3	≤3	Flam. Liq. 3, H226 STOT SE 3, H336	[1]
hydrocarbons, C10-C13, n-/ iso-/ cyclo-alkanes, < 2% aromatics	REACH #: 01-2119457273-39 EC: 918-481-9 Index: 649-327-00-6	≤0,19	Asp. Tox. 1, H304 EUH066	[1] [2]
3-aminopropyltriethoxysilane	REACH #: 01-2119480479-24 EC: 213-048-4 CAS: 919-30-2 Index: 612-108-00-0	≤0,3	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317	[1]
Amines, tallow alkyl, ethoxylated	EC: 500-153-8 CAS: 61791-26-2	<0,25	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1) <b>See Section 16 for the full text of the H statements declared above.</b>	[1]

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

This mixture contains ≥ 1% of titanium dioxide. The Annex VI classification of titanium dioxide does not apply to this mixture according to Note 10.

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 if irritation occurs.
- 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** : Flush contaminated skin with plenty of water. 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:  
irritation  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness
- Skin contact** : No specific data.
- 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.

**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 British standard BS EN 469 will provide a basic level of protection for chemical incidents.

**Additional information** : Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Do not puncture, incinerate or store the container at temperatures above 49°C (120°F) or in direct sunlight. Container explosion may occur under fire conditions or when heated. Bursting aerosol containers may be propelled from a fire at high speed.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**6.2 Environmental precautions**

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

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

## 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. 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.
- 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. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

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

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

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

#### Seveso Directive - Reporting thresholds

##### Danger criteria

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

### 7.3 Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational exposure limits**

Product/ingredient name	Exposure limit values
Ethylacetate	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020)</b> STEL 15 minutes: 400 ppm. TWA 8 hours: 200 ppm. STEL 15 minutes: 1468 mg/m <sup>3</sup> . TWA 8 hours: 734 mg/m <sup>3</sup> .
hydrocarbons, C10-C13, n-/ iso-/ cyclo-alkanes, < 2% aromatics	<b>Recommended by manufacturer (GB, 2009) [hydrocarbons, C10-C13, n-/ iso-/ cyclo-alkanes, &lt; 2% aromatics]</b> TWA 8 hours: 1200 mg/m <sup>3</sup> ((184 ppm)). Form: Vapour.

**Biological exposure indices**

No exposure indices known.

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

**DNELs/DMELs**

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

**SECTION 8: Exposure controls/personal protection**

1-methoxy-2-propanol	DNEL	Inhalation Long term Dermal	63 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	734 mg/m <sup>3</sup>	General population [Consumers]	Local
	DNEL	Short term Inhalation	734 mg/m <sup>3</sup>	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	367 mg/m <sup>3</sup>	General population [Consumers]	Local
	DNEL	Long term Inhalation	367 mg/m <sup>3</sup>	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
	DNEL	Short term Inhalation	553,5 mg/ m <sup>3</sup>	Workers	Local
	DNEL	Long term Inhalation	369 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	50,6 mg/ kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	43,9 mg/m <sup>3</sup>	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
	3-aminopropyltriethoxysilane	DNEL	Short term Dermal	8,3 mg/kg bw/day	Workers
DNEL		Short term Inhalation	59 mg/m <sup>3</sup>	Workers	Systemic
DNEL		Long term Dermal	8,3 mg/kg bw/day	Workers	Systemic
DNEL		Long term Inhalation	59 mg/m <sup>3</sup>	Workers	Systemic
DNEL		Short term Oral	5 mg/kg bw/day	General population [Consumers]	Systemic
DNEL		Short term Dermal	5 mg/kg bw/day	General population [Consumers]	Systemic
DNEL		Short term Inhalation	17,4 mg/m <sup>3</sup>	General population [Consumers]	Systemic
DNEL		Long term Oral	5 mg/kg bw/day	General population [Consumers]	Systemic
DNEL		Long term Dermal	5 mg/kg bw/day	General population [Consumers]	Systemic
DNEL		Long term Inhalation	17 mg/m <sup>3</sup>	General population [Consumers]	Systemic

**PNECs**



**SECTION 8: Exposure controls/personal protection**

Product/ingredient name	Compartment Detail	Value	Method Detail
n-butyl acetate	Fresh water	0,18 mg/l	-
	Marine	0,018 mg/l	-
	Fresh water sediment	0,981 mg/kg	-
	Marine water sediment	0,0981 mg/kg	-
	Soil	0,0903 mg/kg	-
	Sewage Treatment Plant	35,6 mg/l	-
Ethylacetate	Fresh water	0,24 mg/l	-
	Marine	0,024 mg/l	-
	Fresh water sediment	1,15 mg/kg	-
	Marine water sediment	0,115 mg/kg	-
	Soil	0,148 mg/kg	-
	Sewage Treatment Plant	650 mg/l	-
1-methoxy-2-propanol	Fresh water	10 mg/l	-
	Fresh water sediment	41,6 mg/l	-
	Marine water sediment	4,17 mg/l	-
	Soil	2,47 mg/l	-
	Sewage Treatment Plant	100 mg/l	-
	3-aminopropyltriethoxysilane	Fresh water	0,33 mg/l
Marine		0,033 mg/l	-
Sewage Treatment Plant		3,3 mg/l	-
Fresh water sediment		0,26 mg/l	-
Soil		0,04 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: safety glasses with side-shields.

**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.

**SECTION 8: Exposure controls/personal protection**

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): polyethylene (PE), polyvinyl alcohol (PVA)  
The recommendation for the type or types of glove to use when handling this product is based on information from the following source: EN374. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to British Standard BS 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 filter (Type A) 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** : Grey. Red.
- 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
dimethyl ether	-24,82	-12,7	

- 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%

**SECTION 9: Physical and chemical properties**

<b>Flash point</b>	: Closed cup: -40°C (-40°F) [Literature]
<b>Auto-ignition temperature</b>	: 350°C (662°F) [Literature]
<b>Decomposition temperature</b>	: Not available.
<b>pH</b>	: Not applicable.
<b>pH : Justification</b>	: Product is non-soluble (in water).
<b>Viscosity</b>	: Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C): Not available.
<b>Solubility(ies)</b>	:

Media	Result
cold water	Not soluble
hot water	Not soluble

<b>Solubility in water</b>	: Not available.
<b>Partition coefficient: n-octanol/ water</b>	: Not applicable.
<b>Vapour pressure</b>	: 400 kPa (3000 mm Hg) [calculated.]
<b>Evaporation rate</b>	: Not available.
<b>Relative density</b>	: Not available.
<b>Density</b>	: 0,86 g/cm <sup>3</sup> [20°C (68°F)] [DIN 53217]
<b>Vapour density</b>	: >1 [Air = 1]
<b>Explosive properties</b>	: 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.
<b>Oxidising properties</b>	: Not available.
<b>Particle characteristics</b>	
<b>Median particle size</b>	: Not applicable.

**9.2 Other information**

<b>Heat of combustion</b>	: 21,78 kJ/g
<b>Aerosol product</b>	
<b>Type of aerosol</b>	: Spray

**SECTION 10: Stability and reactivity**

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

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
n-butyl acetate	LC50 Inhalation Dusts and mists	Rat - Male, Female	23,4 mg/l	4 hours
Ethylacetate	LC50 Inhalation Vapour	Rat	>21 mg/l	4 hours
	LC50 Inhalation Vapour	Rat	9700 mg/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	14000 mg/kg	-
	LC50 Inhalation Vapour	Rat	>22,5 mg/l	6 hours
	LD50 Oral	Mouse	4100 mg/kg	-
	LD50 Oral	Rabbit	4935 mg/kg	-
1-methoxy-2-propanol	LD50 Oral	Rat	5620 mg/kg	-
	LC50 Inhalation Vapour	Rat	30,02 mg/l	4 hours
	LD50 Dermal	Rabbit	13 g/kg	-
	LD50 Oral	Mouse	11700 mg/kg	-
hydrocarbons, C10-C13, n-/iso-/ cyclo-alkanes, < 2% aromatics	LD50 Oral	Rat - Male, Female	4016 mg/kg	-
	LC50 Inhalation Vapour	Rat	5000 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
3-aminopropyltriethoxysilane	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Vapour	Rat - Female	>7350 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	4,29 g/kg	-
	LD50 Dermal	Rabbit	4076 mg/kg	-
	LD50 Oral	Rat - Male	2,83 g/kg	-
Amines, tallow alkyl, ethoxylated	LD50 Oral	Rat - Female	1490 mg/kg	-
	LD50 Dermal	Rat	>10 g/kg	-
	LD50 Oral	Rat	500 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
3-aminopropyltriethoxysilane	500	N/A	N/A	N/A	N/A
Amines, tallow alkyl, ethoxylated	500	N/A	N/A	N/A	N/A

**Irritation/Corrosion**

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

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

**Respiratory** : May cause drowsiness or dizziness.

**Respiratory or skin sensitization**

Product/ingredient name	Route of exposure	Species	Result
3-aminopropyltriethoxysilane	skin	Guinea pig	Sensitising

**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**

**SECTION 11: Toxicological information**

**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)**

Product/ingredient name	Category	Route of exposure	Target organs
n-butyl acetate	Category 3	-	Narcotic effects
Ethylacetate	Category 3	-	Narcotic effects
1-methoxy-2-propanol	Category 3	-	Narcotic effects

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

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

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

**Potential acute health effects**

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

**Skin contact** : No known significant effects or critical hazards.

**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:  
irritation  
redness

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

**Skin contact** : No specific data.

**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.

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

## SECTION 11: Toxicological information

<b>General</b>	: No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: No known significant effects or critical hazards.
<b>Mutagenicity</b>	: No known significant effects or critical hazards.
<b>Reproductive toxicity</b>	: No known significant effects or critical hazards.

**Other information** : Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
n-butyl acetate	Acute EC50 397 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
	Acute EC50 44 mg/l Fresh water	Daphnia spec. - Daphnia spec.	48 hours
	Acute LC50 18 mg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	96 hours
Ethylacetate	Chronic NOEC 23 mg/l Fresh water	Daphnia spec. - Daphnia spec.	21 days
	Acute EC50 5600 mg/l	Algae - Algae - <i>Scenedesmus subspicatus</i>	72 hours
	Acute EC50 165 mg/l Fresh water	Daphnia spec. - Water flea - <i>Daphnia Cucullata</i>	48 hours
	Acute LC50 230 mg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	48 hours
	Chronic NOEC 2,4 mg/l Fresh water	Daphnia spec. - Water flea - <i>Daphnia magna</i>	21 days
1-methoxy-2-propanol	Chronic NOEC 6,9 mg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	6,9 hours
	Acute EC50 >1000 mg/l	Algae - <i>Selenastrum capricornutum</i>	7 days
	Acute EC50 23300 mg/l Acute LC50 6812 mg/l Fresh water	Daphnia spec. - Daphnia spec. Fish - Golden orfe (leuciscus idus)	96 hours 96 hours
hydrocarbons, C10-C13, n-/iso-/ cyclo-alkanes, < 2% aromatics	Acute EC50 >1000 mg/l	Daphnia spec.	4 hours
	Acute IC50 >1000 mg/l Acute LC50 >1000 mg/l	Algae Fish	4 hours 4 hours
Amines, tallow alkyl, ethoxylated	Chronic EC50 0,17 mg/l	Daphnia spec.	48 hours
	Chronic LC50 0,13 mg/l	Fish	96 hours

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

### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
n-butyl acetate	-	90 % - Readily - 28 days	-	-
	OECD 301D	83 % - Readily - 28 days	-	-
	-	80 % - 5 days	-	-
Ethylacetate	OECD 301D	70 % - Readily - 28 days	-	-
	OECD 301E	96 % - Readily - 28 days	-	-
1-methoxy-2-propanol	OECD 301C	88 to 92 % - Readily - 28 days	-	-
	-	>90 % - Readily - 5 days	1,95 gO <sub>2</sub> /g ThOD	-
3-aminopropyltriethoxysilane	EU 79/831 - C. 4-A	67 % - 28 days	-	-

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

## SECTION 12: Ecological information

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

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
n-butyl acetate	2,3	10	Low
Ethylacetate	0,68	30	Low
1-methoxy-2-propanol	<1	<100	Low
3-aminopropyltriethoxysilane	1,7	3,4	Low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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 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.

#### Waste catalogue

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
<b>14.1 UN number or ID number</b>	UN1950	UN1950	UN1950	UN1950
<b>14.2 UN proper shipping name</b>	AEROSOLS, flammable	AEROSOLS, flammable	AEROSOLS, flammable	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>	No.	No.	No.	No.
<b>Additional information</b>	<b>Limited quantity</b> 1L <b>Special provisions</b> 190, 327, 344, 625 <b>Tunnel code</b> (D)	<b>Special provisions</b> 190, 327, 344, 625 <b>Remarks</b> : ≤ 1L: Limited Quantity	<b>Emergency schedules</b> : F-D, S-U <b>Special provisions</b> 63, 190, 277, 327, 344, 381, 959 <b>Remarks</b> : ≤ 1L: Limited Quantity - IMDG 3.4	<b>Quantity limitation</b> 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. <b>Special provisions</b> A145, A167, A802

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

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

## SECTION 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**UK (GB)/REACH**

**Annex XIV - List of substances subject to authorisation**

**Annex XIV**

None of the components are listed above the relevant limit.

**Substances of very high concern**

None of the components are listed above the relevant limit.

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



2169 & 2182 Hard-Hat Primers

## SECTION 15: Regulatory information

Product/ingredient name	%	Designation [Usage]
2169 & 2182 Hard-Hat® Primers	≥90	3

**Labelling** : Not applicable.

### Other EU regulations

**VOC** : Exempt

**VOC for Ready-for-Use Mixture** : Exempt

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

### Ozone depleting substances

Not listed.

### Prior Informed Consent (PIC)

Not listed.

### Persistent Organic Pollutants

Not listed.

**Aerosol dispensers** :

**UK  
CA**



Extremely flammable

### Seveso Directive

This product is controlled under the Seveso Directive.

### Danger criteria

Category
P3a

### EU regulations

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

### International regulations

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

Not listed.

### Montreal Protocol

## SECTION 15: Regulatory information

Not listed.

### [Stockholm Convention on Persistent Organic Pollutants](#)

Not listed.

### [Rotterdam Convention on Prior Informed Consent \(PIC\)](#)

Not listed.

### [UNECE Aarhus Protocol on POPs and Heavy Metals](#)

Not listed.

**CN code** : 3208 10 90 00

### [Inventory list](#)

<b>Australia</b>	: At least one component is not listed.
<b>Canada</b>	: At least one component is not listed.
<b>China</b>	: At least one component is not listed.
<b>Eurasian Economic Union</b>	: <b>Russian Federation inventory</b> : Not determined.
<b>Japan</b>	: <b>Japan inventory (CSCL)</b> : At least one component is not listed. <b>Japan inventory (ISHL)</b> : At least one component is not listed.
<b>New Zealand</b>	: At least one component is not listed.
<b>Philippines</b>	: At least one component is not listed.
<b>Republic of Korea</b>	: At least one component is not listed.
<b>Taiwan</b>	: At least one component is not listed.
<b>Thailand</b>	: At least one component is not listed.
<b>Turkey</b>	: At least one component is not listed.
<b>United States</b>	: Not determined.
<b>Viet Nam</b>	: 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.

<b>Abbreviations and acronyms</b>	: ATE = Acute Toxicity Estimate GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = GB 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
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### [Procedure used to derive the classification](#)

Classification	Justification
Aerosol 1, H222, H229 STOT SE 3, H336	On basis of test data Calculation method

### [Full text of abbreviated H statements](#)

**SECTION 16: Other information**

H222, H229	Extremely flammable aerosol. Pressurised container: may burst if heated.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
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**

Acute Tox. 4	ACUTE TOXICITY - Category 4
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
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
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.

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