

# Aluminium based anti-seize

The logo for MOLYSLIP, featuring the brand name in white, italicized, sans-serif capital letters on a red rectangular background.

## Description

MOLYSLIP ALUMSLIP is a high temperature anti-seize compound formulated to protect fasteners from seizure induced by extremes of temperature, pressure and corrosion. The mineral oil base fluid contains micronized particles of metal and non-metal fillers to provide excellent lubrication and protection to threads and components.

MOLYSLIP ALUMSLIP is resistant to temperatures up to 650°C and it effectively protects against chemical corrosion and atmospheric oxidation. Free of copper, lead, sulphides, fluorides and chlorides ALUMSLIP is suitable for use on all studs, nuts, bolts and other threaded connections, including turbine casing studs, burner nozzles, boiler inspection points and furnace bolts. ALUMSLIP is particularly designed where copper needs to be avoided (for example where concerns of galvanic corrosion exist).

## Features and benefits

- High temperature capability – up to 650°C
- Ensures consistent friction between threads
- Protects against galling and seizure
- Protects against rust and corrosion
- Eases assembly of tight tolerance components

## Instructions for use

MOLYSLIP ALUMSLIP should be used as supplied. Ensure surfaces to be treated are clean and dry - free from oil, grease or dirt contamination. Apply a thin even coating by rubbing onto the surface with a lint free cloth.

## Packaging

500g tin



## Technical data (typical values)

Property	Result
Appearance	Smooth silver paste
Consistency	NLGI 1
Effective temperature range	-100°C up to +650°C
Solidification point (of the base fluid)	-20°C
Base oil viscosity	100 cSt

When a compound is applied to a threaded fastener that will be tightened to a specific torque setting, the torque setting will require adjustment to allow for the lubricating effect of the compound. Failure to do so can result in incorrect tension in the fastener. Correct torque settings can be calculated using the tables and charts below and the standard thread equation:

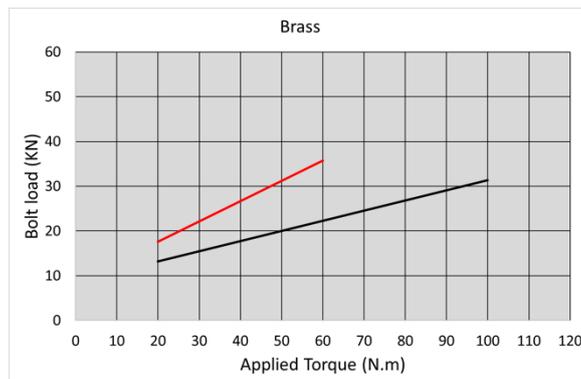
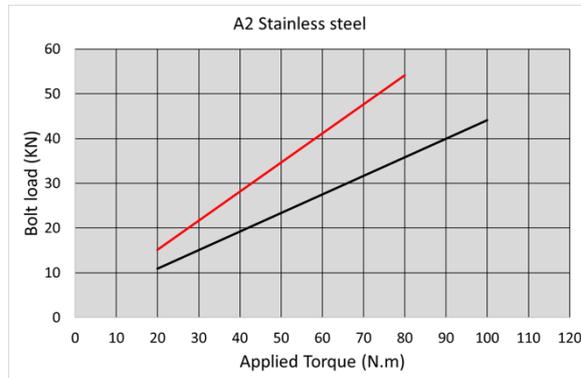
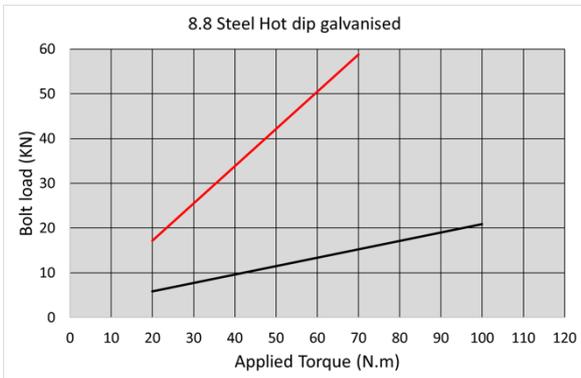
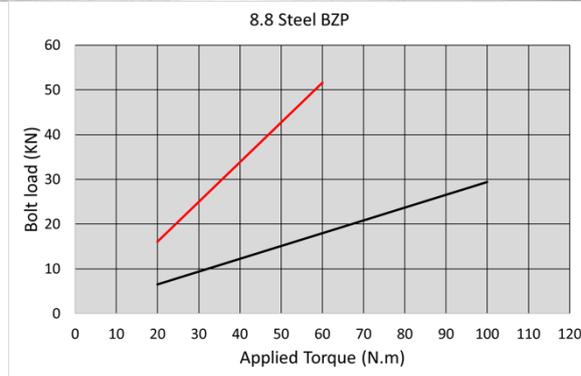
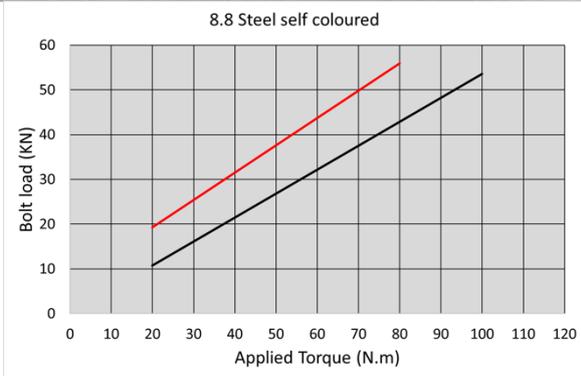
$$T = KDP$$

T = Torque (N.m)  
 D = Diameter (m)  
 P = Clamping force (N)  
 K = Nut factor

Material	K Nut factor
8.8 Steel self coloured	0.11
8.8 Steel BZP	0.10
8.8 Steel Hot dip galvanised	0.10
A2 Stainless steel	0.12
Brass	0.12

These results were obtained from the tension-torsion relationship measured on M12 x 50mm setscrews with 1.75mm thread pitch, full nut and form A washers. Fasteners were degreased and a thin layer of compound applied to the thread, underside of bolt head and top of the nut.

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Black = Degreased fastener  
 Red = Alumslip

The product information in this publication is based on knowledge and experience at the time of printing. There are many factors outside our control or knowledge which affect the use and performance of our products, for which reason it is given without responsibility.  
 Issue date 06-17

# Aluminium based anti-seize Safety Data Sheet



**MOLYSLIP**<sup>®</sup>

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

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

### 1.1. Product identifier

**Product name** Molyslip Alumslip

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

**Identified uses** Anti-seize compound

**Uses advised against** No specific uses advised against are identified.

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

**Supplier** Molyslip  
4 Huntsman Drive  
Northbank Industrial Park  
Irlam  
Manchester  
M44 5EG  
UK  
+44 (0)161 804 4700  
+44 (0)161 804 4701  
compliance@molyslip.co.uk

### 1.4. Emergency telephone number

**Emergency telephone** +44 (0)161 804 4700

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification (EC 1272/2008)

**Physical hazards** Not Classified

**Health hazards** Not Classified

**Environmental hazards** Not Classified

### 2.2. Label elements

**Hazard statements** NC Not Classified

**Supplementary precautionary statements** P501 Dispose of contents/ container in accordance with national regulations.

### 2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

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<b>Distillates (petroleum), hydrotreated heavy paraffinic &lt;3% DMSO</b>	<b>60-100%</b>	
CAS number: 64742-54-7	EC number: 265-157-1	REACH registration number: 01-2119484327-25-XXXX
<b>Classification</b> Not Classified		
<b>Talc (Mg<sub>3</sub>H<sub>2</sub>(SiO<sub>3</sub>)<sub>4</sub>)</b>	<b>5-10%</b>	
CAS number: 14807-96-6	EC number: 238-877-9	
<b>Classification</b> Not Classified		
<b>Graphite</b>	<b>5-10%</b>	
CAS number: 7782-42-5	EC number: 231-955-3	REACH registration number: 01-2119486977-12-XXXX
<b>Classification</b> Not Classified		
<b>Stoddard solvent</b>	<b>1-5%</b>	
CAS number: 8052-41-3	EC number: 232-489-3	REACH registration number: 01-2119485517-27-0025
<b>Classification</b> Muta. 1B - H340 Carc. 1B - H350 Asp. Tox. 1 - H304		
<b>propylene carbonate</b>	<b>&lt;1%</b>	
CAS number: 108-32-7	EC number: 203-572-1	REACH registration number: 01-2119537232-48-XXXX
<b>Classification</b> Eye Irrit. 2 - H319		

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diphenylamine

<1%

CAS number: 122-39-4

EC number: 204-539-4

REACH registration number: 01-2119488966-13-XXXX

M factor (Acute) = 1

M factor (Chronic) = 1

## Classification

Acute Tox. 3 - H301

Acute Tox. 3 - H311

Acute Tox. 3 - H331

STOT RE 2 - H373

Aquatic Acute 1 - H400

Aquatic Chronic 1 - H410

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

<b>General information</b>	Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.
<b>Inhalation</b>	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if symptoms are severe or persist.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless under the direction of medical personnel.
<b>Skin contact</b>	Rinse with water.
<b>Eye contact</b>	Remove any contact lenses and open eyelids wide apart. Rinse with water. Get medical attention if any discomfort continues.
<b>Protection of first aiders</b>	First aid personnel should wear appropriate protective equipment during any rescue.

### 4.2. Most important symptoms and effects, both acute and delayed

<b>General information</b>	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	Prolonged or repeated exposure may cause the following adverse effects: May cause cancer.
<b>Ingestion</b>	Prolonged or repeated exposure may cause the following adverse effects: May cause cancer.
<b>Skin contact</b>	Prolonged contact may cause dryness of the skin. Prolonged or repeated exposure may cause the following adverse effects: May cause cancer.
<b>Eye contact</b>	No specific symptoms known. May be slightly irritating to eyes.

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

<b>Notes for the doctor</b>	Treat symptomatically.
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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
<b>Unsuitable extinguishing</b>	Do not use water jet as an extinguisher, as this will spread the fire.

## 5.2. Special hazards arising from the substance or mixture

<b>Specific hazards</b>	None known.
<b>Hazardous combustion products</b>	Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

## 5.3. Advice for firefighters

<b>Protective actions during firefighting</b>	Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
<b>Special protective equipment for firefighters</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

## **SECTION 6: Accidental release measures**

### 6.1. Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material.
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### 6.2. Environmental precautions

<b>Environmental precautions</b>	Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.
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### 6.3. Methods and material for containment and cleaning up

<b>Methods for cleaning up</b>	Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.
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### 6.4. Reference to other sections

<b>Reference to other sections</b>	For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.
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## **SECTION 7: Handling and storage**

### 7.1. Precautions for safe handling

<b>Usage precautions</b>	Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. May cause cancer. May cause genetic defects. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.
<b>Advice on general occupational hygiene</b>	Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse.

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

**Storage precautions** Store away from incompatible materials (see Section 10). Store locked up. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.

**Storage class** Chemical storage.

### 7.3. Specific end use(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2.

## **SECTION 8: Exposure Controls/personal protection**

### 8.1. Control parameters

#### Occupational exposure limits

##### **Distillates (petroleum), hydrotreated heavy paraffinic <3% DMSO**

Long-term exposure limit (8-hour TWA): WEL 5 mg/m<sup>3</sup> inhalable dust

Long-term exposure limit (8-hour TWA): WEL 5 mg/m<sup>3</sup> mist

##### **Talc (Mg3H2(SiO3)4)**

Long-term exposure limit (8-hour TWA): WEL 1 mg/m<sup>3</sup>

##### **Graphite**

Long-term exposure limit (8-hour TWA): WEL 5 mg/m<sup>3</sup> respirable dust

Long-term exposure limit (8-hour TWA): WEL 10 mg/m<sup>3</sup> inhalable dust

##### **Polyisobutylene in mineral oil**

Long-term exposure limit (8-hour TWA): WEL 5 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 10 mg/m<sup>3</sup>

##### **diphenylamine**

Long-term exposure limit (8-hour TWA): WEL 10 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 20 mg/m<sup>3</sup>

WEL = Workplace Exposure Limit

#### **Distillates (petroleum), hydrotreated heavy paraffinic <3% DMSO (CAS: 64742-54-7)**

**DNEL** Workers - Inhalation; Long term local effects: 5.4 mg/m<sup>3</sup>

#### **Graphite (CAS: 7782-42-5)**

**DNEL** Workers - Inhalation; Long term local effects: 1.2 mg/m<sup>3</sup>

#### **propylene carbonate (CAS: 108-32-7)**

**DNEL** Industry - Inhalation; Long term systemic effects: 50 mg/kg/day

Industry - Inhalation; Long term local effects: 20 mg/m<sup>3</sup>

Industry - Dermal; Long term systemic effects: 50 mg/kg/day

**PNEC** - Fresh water; 0.9 mg/l

- Marine water; 0.09 mg/l

- STP; 7.4E3 mg/l

- Soil; 0.81 mg/kg

### 8.2. Exposure controls

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## Protective equipment



### Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Ensure the ventilation system is regularly maintained and tested. Good general ventilation should be adequate to control worker exposure to airborne contaminants. Observe any occupational exposure limits for the product or ingredients.

### Eye/face protection

Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

### Hand protection

Wear protective gloves. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

### Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact.

### Hygiene measures

Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

### Respiratory protection

Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

### Environmental exposure controls

Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

Appearance	Paste.
Colour	Grey. to Silver.
Odour	Characteristic.
Flash point	> 220°C COC (Cleveland open cup).
Relative density	~ 1.00 @ 20°C
Solubility(ies)	Insoluble in water.

### 9.2. Other information

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity See the other subsections of this section for further details.

### 10.2. Chemical stability

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**Stability** Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

## 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** No potentially hazardous reactions known.

## 10.4. Conditions to avoid

**Conditions to avoid** There are no known conditions that are likely to result in a hazardous situation.

## 10.5. Incompatible materials

**Materials to avoid** No specific material or group of materials is likely to react with the product to produce a hazardous situation.

## 10.6. Hazardous decomposition products

**Hazardous decomposition products** Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

## **SECTION 11: Toxicological information**

### 11.1. Information on toxicological effects

#### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** Based on available data the classification criteria are not met.

#### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** Based on available data the classification criteria are not met.

#### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** Based on available data the classification criteria are not met.

#### Skin corrosion/irritation

**Animal data** Based on available data the classification criteria are not met.

#### Serious eye damage/irritation

**Serious eye damage/irritation** Based on available data the classification criteria are not met.

#### Respiratory sensitisation

**Respiratory sensitisation** Based on available data the classification criteria are not met.

#### Skin sensitisation

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

#### Germ cell mutagenicity

**Genotoxicity - in vitro** May cause genetic defects.

#### Carcinogenicity

**Carcinogenicity** May cause cancer.

#### **IARC carcinogenicity**

None of the ingredients are listed or exempt.

#### Reproductive toxicity

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met.

**Reproductive toxicity - development**

Based on available data the classification criteria are not met.

#### Specific target organ toxicity - single exposure

**STOT - single exposure** Not classified as a specific target organ toxicant after a single exposure.

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## Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Not classified as a specific target organ toxicant after repeated exposure.

## Aspiration hazard

**Aspiration hazard** Not relevant. Solid.

## **General information**

May cause cancer after repeated exposure. Risk of cancer depends on duration and level of exposure. May cause genetic defects. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation** No specific symptoms known.

**Ingestion** No specific symptoms known.

**Skin contact** Prolonged contact may cause dryness of the skin.

**Eye contact** No specific symptoms known.

**Route of entry** Ingestion Inhalation Skin and/or eye contact

**Target organs** No specific target organs known.

## **SECTION 12: Ecological Information**

**Ecotoxicity** Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

### 12.1. Toxicity

**Toxicity** Based on available data the classification criteria are not met.

### 12.2. Persistence and degradability

**Persistence and degradability** The degradability of the product is not known.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential** No data available on bioaccumulation.

### 12.4. Mobility in soil

**Mobility** No data available.

### 12.5. Results of PBT and vPvB assessment

### 12.6. Other adverse effects

**Other adverse effects** None known.

## **SECTION 13: Disposal considerations**

### 13.1. Waste treatment methods

#### **General information**

The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

#### **Disposal methods**

Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

## SECTION 14: Transport information

**General** The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

### 14.1. UN number

Not applicable.

### 14.2. UN proper shipping name

Not applicable.

### 14.3. Transport hazard class(es)

No transport warning sign required.

### 14.4. Packing group

Not applicable.

### 14.5. Environmental hazards

**Environmentally hazardous substance/marine pollutant**

No.

### 14.6. Special precautions for user

Not applicable.

### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

**Transport in bulk according to** Not applicable.

**Annex II of MARPOL 73/78**

**and the IBC Code**

## SECTION 15: Regulatory information

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

#### **National regulations**

Health and Safety at Work etc. Act 1974 (as amended).  
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].  
EH40/2005 Workplace exposure limits.

#### **EU legislation**

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).  
Commission Regulation (EU) No 2015/830 of 28 May 2015.  
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

### Inventories

#### **EU - EINECS/ELINCS**

None of the ingredients are listed or exempt.

## SECTION 16: Other information

<b>Abbreviations and acronyms used in the safety data sheet</b>	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways. RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail. IATA: International Air Transport Association. ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air. IMDG: International Maritime Dangerous Goods. CAS: Chemical Abstracts Service. ATE: Acute Toxicity Estimate. LC <sub>50</sub> : Lethal Concentration to 50 % of a test population. LD <sub>50</sub> : Lethal Dose to 50% of a test population (Median Lethal Dose). EC <sub>50</sub> : 50% of maximal Effective Concentration. PBT: Persistent, Bioaccumulative and Toxic substance. vPvB: Very Persistent and Very Bioaccumulative.
<b>Classification abbreviations and acronyms</b>	Carc. = Carcinogenicity Muta. = Germ cell mutagenicity
<b>Classification procedures according to Regulation (EC) 1272/2008</b>	Muta. 1B - H340: Carc. 1B - H350: : Calculation method.
<b>Training advice</b>	Only trained personnel should use this material.
<b>Revision date</b>	04/08/2017
<b>Revision</b>	4
<b>Supersedes date</b>	10/07/2017
<b>SDS number</b>	5094
<b>Hazard statements in full</b>	H301 Toxic if swallowed. H304 May be fatal if swallowed and enters airways. H311 Toxic in contact with skin. H319 Causes serious eye irritation. H331 Toxic if inhaled. H340 May cause genetic defects. H350 May cause cancer. 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.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.