Paving grade bitumens

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Date of issue: 03.10.2002 Version: 1.1

Revision date: 10.03.2014

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Chemical type : Mixture

Trade name : Paving grade bitumens

Local code : MOL_1011_001;MOL_1011_002;MOL_1011_003;MOL_1011_004;1011_005;1011_006;1011_007;1011_008;1012_007;1012_021;1012_022;1011_009

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

1.2.1. Relevant identified uses

Main use category : Industrial use,Professional use

Industrial/Professional use spec : Intermediate
Manufacture of substance
Road and construction applications

1.2.2. Uses advised against

No relevant data available

1.3. Details of the supplier of the safety data sheet

Manufacturer: MOL Hungarian Oil and Gas Public Limited Company, Refining
Address: 2443 Százhalombatta, POB.1.
Telephone: +36-23-552-511,
Fax:+36-23-553-122
Distributor: MOL Hungarian Oil and Gas Public Limited Company
Address: 1117 Budapest, Október huszonharmadika utca 18.
Telephone, fax.: +36-1-209-0000
The competent person responsible for Safety Data Sheet: sds@mol.hu

1.4. Emergency telephone number

Emergency number :

Country	Organisation/Company	Address	Emergency number
UNITED KINGDOM	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BABelfast	0870 600 6266 (UK only)
UNITED KINGDOM	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QHBirmingham	0870 600 6266 (UK only)
UNITED KINGDOM	National Poisons Information Service (Cardiff Centre) Gwenwyn Ward, Llandough Hospital	Penarth CF64 2XXCardiff	0870 600 6266 (UK only)
UNITED KINGDOM	NPIS Edinburgh (Scottish Poisons Information Bureau) Royal Infirmary of Edinburgh	51 Little France Crescent EH16 4SAEdinburgh	0870 600 6266 (UK only)
UNITED KINGDOM	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ERLondon	0870 243 2241
UNITED KINGDOM	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit	Claremont Place Newcastle-upon-Tyne NE1 4LPNewcastle	0870 600 6266 (UK only)

2. Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

2.1.2. Classification according to Directive 67/548/EEC or 1999/45/EC

2.1.3. Adverse physicochemical, human health and environmental effects

No relevant data available

2.2. Label elements

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

No labelling applicable

2.2.2. Labelling according to Directive 67/548/EEC or 1999/45/EC

Hazard symbols : -

R-phrases : -

2.3. Other hazards

No relevant data available

3. Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixture

Name	Product identifier			% (w/w) Concentration (range)	Classification according to Directive 67/548/EEC	Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]
	CAS No	EC no	REACH ref. no			
MOL / 265-057-8 / Residues (petroleum), vacuum	64741-56-6	265-057-8	01-2119498291-32-0047	50	Not classified	Not classified
MOL / 265-196-4 / Asphalt, oxidized	64742-93-4	265-196-4	01-2119498270-36-0034	50	Not classified	Not classified

Full text of R-, H- and EUH-phrases: see section 16

4. First aid measures

4.1. Description of first aid measures

First-aid measures general : Hydrogen sulphide (H2S) can accumulate in the headspace of product storage tanks and reach potentially hazardous concentrations.

Contact with hot product may cause severe thermal burns.

Aspiration : not applicable due to the physical state of oxidized bitumen.

First-aid measures after inhalation : In case of symptoms arising from inhalation of fumes or oil mists produced at high temperatures

Remove casualty to a quiet and well ventilated place if safe to do so

If casualty is unconscious and:

Not breathing

Ensure that there is no obstruction to breathing and give artificial respiration by trained personnel.

If necessary, give external cardiac massage and obtain medical advice.

Breathing

Place in the recovery position.

Administer oxygen if necessary.

Obtain medical assistance if breathing remains difficult.

If there is any suspicion of inhalation of H2S (hydrogen sulphide).

Rescuers must wear breathing apparatus, belt and safety rope, and follow rescue procedures.

Remove casualty to fresh air as quickly as possible.

Immediately begin artificial respiration if breathing has ceased.

Provision of oxygen may help.

Obtain medical advice for further treatment.

First-aid measures after skin contact : In the event of accidental skin contact with hot product, the injured part should be immediately plunged under cold running water for at least 10 minutes.

No attempt must be made to remove the bitumen adherent to the skin at the worksite.

In the case of a circumferential burn with adhesion of the bitumen, the adhering material should be split to prevent a tourniquet effect as it cools.

Send patient for specialist care.

For minor thermal burns, cool the burn

Hold the burned area under cold running water for at least five minutes, or until the pain subsides.

Body hypothermia must be avoided.

Do not put ice on the burn.

Remove non-sticking garments carefully.

DO NOT attempt to remove portions of clothing glued to burnt skin but cut round them

Seek medical attention in all cases of serious burns.

First-aid measures after eye contact : If hot product is splashed into the eye, it should be cooled down immediately to dissipate heat, under cold running water.

Immediately obtain specialist medical assessment and treatment for the casualty.

In the event of eye contact with cold product, rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do so

Continue rinsing

If irritation, blurred vision or swelling occurs and persists, obtain medical advice from a specialist.

First-aid measures after ingestion : Do not induce vomiting.

Ask for medical advice.

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

Symptoms/injuries after inhalation : irritation of the respiratory tract due to excess fume, mists or vapour exposure.

Symptoms/injuries after skin contact : Contact with hot/molten product will cause severe burns.

Symptoms/injuries after eye contact : minimal redness and irritation.

Contact with hot/molten product will cause severe burns.

Symptoms/injuries after ingestion : few or no symptoms expected.

If any, nausea and diarrhoea might occur.

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

Never use gasoline, kerosene or other solvents for washing of contaminated skin.

5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam (trained personnel only). Water fog (trained personnel only). Dry chemical powder. Carbon dioxide. Other inert gases (subject to regulations). Sand or earth.

Unsuitable extinguishing media : Do not use direct water jets on the burning product;. they could cause splattering and spread the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

5.2. Special hazards arising from the substance or mixture

Fire hazard : The burning material acquires a dark red-black colour. The flames generated by the burning product are short, dark blue colored at night and invisible in the daylight, with the exception of the fume and the heat.

Explosion hazard : No direct explosion hazard.

Reactivity : Contact of hot product with water will result in a violent expansion as the water turns to steam. This may cause splashing of hot product, or damage to, or complete loss of the tank roof.

General measures : If not done in a proper way this could cause a fire.

5.3. Advice for firefighters

Firefighting instructions : Though other forms of exthinguishing agent may be used, they are considered less effective for deep seated and smouldering fires.

Protection during firefighting : In case of a large fire or in confined or poorly ventilated spaces, wear full fire resistant protective clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Other information : Respiratory problems or nausea by excessive exposure to hot product fumes. Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide. H2S, SOx (sulfur oxides) or sulfuric acid. unidentified organic and inorganic compounds.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Small spillages: normal antistatic working clothes are usually adequate.

Large spillages: full body suit of chemically resistant and thermal resistant material should be used.

Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons.

gloves made of PVA are not water-resistant, and are not suitable for emergency use

If contact with hot product is possible or anticipated, gloves should be heat-resistant and thermally insulated

Work helmet with neck cloth

Antistatic non-skid safety shoes or boots

if necessary heat-resistant.

Goggles and /or face shield, if splashes or contact with eyes is possible or anticipated.

Respiratory protection:

a half or full-face respirator with filter(s) for organic vapours/H2S, or a Self-contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.

Emergency procedures	:	Stop or contain leak at the source, if safe to do so Avoid direct contact with released material Stay upwind In case of large spillages, alert occupants in downwind areas. Keep non-involved personnel away from the area of spillage. Alert emergency personnel Except in case of small spillages, The feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the emergency. Eliminate all ignition sources if safe to do so (e.g. electricity, sparks, fires, flares If required, notify relevant authorities according to all applicable regulations When the presence of dangerous amounts of H2S around the spilled product is suspected or proved, additional or special actions may be warranted, including access restrictions, use of special protection equipment, procedures and personnel training. If necessary dike the product with dry earth, sand or similar non-combustible materials. When inside buildings or confined spaces, ensure adequate ventilation Let molten material cool naturally. If necessary, cautiously use water fog to help the cooling. Do not play direct jets of foam or water on the spilled molten product, as this may cause splattering.

6.1.2. For emergency responders

Emergency procedures	:	Leaks and spillages will consist of molten hot material with risk of severe burns recommended measures are based on the most likely spillage scenarios for this material.

6.2. Environmental precautions

Leaks and spillages will consist of molten hot material with risk of severe burns

prevent product from entering sewers, rivers or other bodies of water.

solidified product may clog drains and sewers.

Collect free product with suitable mechanical means.

Transfer collected product and other contaminated materials to suitable containers for recovery or safe disposal.

In case of spillage in the water,

the product will cool down rapidly and become solid.

The solid product is denser than water and will slowly sink to the bottom, and usually no intervention will be feasible.

Transfer recovered product and other materials to suitable tanks or containers and store/dispose according to relevant regulations

If possible, contain the product.

6.3. Methods and material for containment and cleaning up

For containment	:	recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave/current direction and speed) may significantly influence the choice of appropriate actions For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken Concentration of H2S in tank headspaces may reach hazardous values, especially in case of prolonged storage. This situation is especially relevant for those operations which involve direct exposure to the vapours in the tank. Spillages of limited amounts of product, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which will presumably limit the exposure to dangerous concentrations. As H2S has a density greater than ambient air, a possible exception may regard the build-up of dangerous concentrations in specific spots, like trenches, depressions or confined spaces In all these circumstances, however, the correct actions should be assessed on a case-by-case basis.
Methods for cleaning up	:	Take up mechanically.
Other information	:	Fine dust may momentarily float. the product will cool down rapidly and become solid.

6.4. Reference to other sections

Contaminated material should be disposed of as hazardous waste according to chapter 13

See also item 8 (personal protective equipment) and 13 (disposal).

7. Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Ensure that all relevant regulations regarding handling and storage facilities of flammable products are followed. A specific assessment of inhalation risks from the presence of H2S in tank headspaces, confined spaces, product residue, tank waste and waste water, and unintentional releases must be made to help determine controls appropriate to local circumstances. Avoid contact with the hot product. Avoid contact of hot bitumen products with water. Risk of splashing of hot material. Ground/bond containers, tanks and transfer/receiving equipment. Do not breathe fumes from hot product. Use adequate personal protective equipment as required. For more information regarding protective equipment and operational conditions see Exposure scenarios. Ensure that proper housekeeping measures are in place. Contaminated materials should not be allowed to accumulate in the workplaces and should never be kept inside the pockets. Keep away from food and beverages. Do not eat, drink or smoke when using this product. Wash the hands thoroughly after handling. Change contaminated clothes at the end of working shift.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Before entering storage tanks and commencing any operation in a confined area, check the atmosphere for oxygen content, hydrogen sulphide (H2S) and flammability. Use adequate personal protective equipment as required. Empty containers may contain flammable product residues. Do not weld, solder, drill, cut or incinerate empty containers, unless they have been properly cleaned. Hot product must never be filled into containers without first checking that the container is completely dry.
Storage conditions	:	Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations.
Storage area	:	Storage area layout, tank design, equipment and operating procedures must comply with the relevant European, national or local legislation. Storage installations should be designed with adequate bunds in case of leaks or spills. Deposits (carbonaceous materials and iron sulphides) can develop on the internal walls and roofs of tanks in case of long term storage. These deposits may be pyrophoric and self-ignite in contact with the air. Store separately from oxidising agents.
Special rules on packaging	:	If the product is supplied in containers: Keep only in the original container or in a suitable container for this kind of product.
Packaging materials	:	Selfheating leading to auto ignition at the surfaces of porous or fibrous materials impregnated with oils or bitumen, can occur at temperatures as low as 100°C. Oil and bitumen contamination of thermal insulation materials and the accumulation of oily rags or similar material near hot surfaces, should therefore be avoided, and lagging should be replaced where necessary by a nonabsorbent type of insulation. Recommended materials: For containers, or container linings use materials specifically approved for use with this product. most synthetic materials are unsuitable for containers or container linings, due to low heat resistance.

7.3. Specific end use(s)

Site documentation to support safe handling arrangements including the selection of engineering, administrative and personal protective equipment controls in accordance with risk-based management systems is available at each manufacturing site.

8. Exposure controls/personal protection

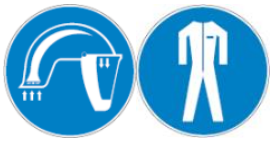
8.1. Control parameters

No relevant data available

8.2. Exposure controls

Appropriate engineering controls : Hydrogen sulphide may accumulate in the head space of storage tanks containing bitumen and can reach potentially hazardous concentrations. Monitoring procedures should be chosen according to the indications set by national authorities or labour contracts. In absence of such indications, direct exposure to bitumen fumes can be assessed with a number of methods. Any comparison should be made only between data obtained with the same procedure. Dermal exposure can be assessed by the dermal patch method. Storage and handling temperatures should be kept as low as feasible to minimize fume production. Minimise exposure to fumes. Where hot product is handled in confined spaces, effective local ventilation must be provided. Do not enter empty storage tanks until measurements of available oxygen have been carried out.

Personal protective equipment : Use of personal protective equipment must be consistent with good occupational hygiene practices. Head/neck protection. Heatproof clothing.



Hand protection : Heat resistant gloves with long cuffs, or gauntlets. Gloves must be periodically inspected and changed in case of wear, perforations or contaminations.

Eye protection : If splashing is likely, full head and face protection (protective shield and/or safety goggles) should be used.

Skin and body protection : Wear protective clothing for operations with hot material: heat resistant coveralls (with trousers legs over boots and sleeves over cuffs of gloves), heat resistant heavy duty antiskid boots (e. g. leather). Coveralls should be changed at the end of the work shift and cleaned as necessary to avoid transfer of product to clothes or underwear. For loading/unloading operations: wear safety helmet with integrated full face visor and neck protection.

Respiratory protection : Heated bitumen will give off fumes. Although these are unlikely to present a significant health hazard,. to avoid respiratory tract irritation inhalation exposure should be kept to a minimum,. by observing good work practice and ensuring good ventilation around work areas. Asphalt [bitumen] fume. Hydrogen sulphide. For this material there are occupational exposure limits set by: National Authorities of EU-member countries. National Authorities of other countries (non EU members). Competent Professional Bodies (i.e. American Conference of Industrial Hygienists, ACGIH). These values are recommended but not legally binding by themselves, unless adopted in a national legislation or labor contracts. recommended values for occupational exposure limits are not meant to replace any value set by official regulations or labour contracts. Approved respiratory protection equipment shall be used in spaces where hydrogen sulphide may accumulate: full face mask with cartridge/filter type “B” (grey for inorganic vapours including H2S) or self-contained breathing apparatus (SCBA). If exposure levels cannot be determined or estimated with adequate confidence, or an oxygen deficiency is possible, only SCBA’s should be used.

Thermal hazard protection : Material handled at elevated temperature may cause thermal burns by contact with molten product. Thermal hazards :

Environmental exposure controls : Store finished products in closed containers (e.g., bulk tanks, drums, cans);.

Consumer exposure controls : Site documentation to support safe handling arrangements including the selection of engineering, administrative and personal protective equipment controls in accordance with risk-based management systems is available at each manufacturing site.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	:	Flexible solid material. molten solid.
Physical state	:	Solid
Boiling point	:	> 400 °C
Flash point	:	> 220 °C
Density	:	> 1 g/cm³
Viscosity, kinematic	:	> 135 mm²/s 135°C
pH	:	Not applicable

9.2. Other information

The above data are informative, accurate physical-chemical data of the product are specified on the product certificate.

10. Stability and reactivity

10.1. Reactivity

Contact of hot product with water will result in a violent expansion as the water turns to steam. This may cause splashing of hot product, or damage to, or complete loss of the tank roof.

10.2. Chemical stability

It does not need the addition of specific stabilizers.

10.3. Possibility of hazardous reactions

No relevant data available

10.4. Conditions to avoid

No relevant data available

10.5. Incompatible materials

No relevant data available

10.6. Hazardous decomposition products

No relevant data available

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Paving grade bitumens	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

MOL / 265-057-8 / Residues (petroleum), vacuum (64741-56-6)	
LD50 oral rat	> 2000 mg/kg Literature data
LD50 dermal rabbit	> 2000 mg/kg Literature data

MOL / 265-196-4 / Asphalt, oxidized (64742-93-4)	
LD50 oral rat	> 2000 mg/kg Literature data
LD50 dermal rabbit	> 2000 mg/kg Literature data

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation: : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

12. Ecological information

12.1. Toxicity

No relevant data available

12.2. Persistence and degradability

No relevant data available

12.3. Bioaccumulative potential

MOL / 265-057-8 / Residues (petroleum), vacuum (64741-56-6)	
Log Pow	> 6 Literature data

12.4. Mobility in soil

No relevant data available

12.5. Results of PBT and vPvB assessment

No relevant data available

12.6. Other adverse effects

No relevant data available

13. Disposal considerations

13.1. Waste treatment methods

No relevant data available

14. Transport information

14.1 Overland transport (ADR)

UN-No. (ADR) : 3257
Class (ADR): : 9 - Miscellaneous dangerous substances and articles
Packing group (ADR) : III
Danger labels (ADR) : 9 - Miscelaneous dangerous substances and articles

Hazard identification number (Kemler No.) : 99
Classification code (ADR) M9
Tunnel restriction code (ADR) : D
Orange plates :

14.2 Overland transport (RID)

UN-No : 3257
Class (RID) : 9 - Miscellaneous dangerous substances and articles
Classification code (RID) : M9
Danger labels (RID) : 9

Packing group (RID) : III
Orange plates :

14.3 Inland waterway transport (ADN)

UN-No : 3257
Class (ADN) : 9 - Miscellaneous dangerous substances and articles
Classification code (ADN) : M9
Packing group (ADN) : III
Danger labels (ADN) : 9

Dangers (ADN) : 9+S

14.4 Transport by sea (IMDG)

UN-No	:	3257
Class (IMDG)	:	9 - Miscellaneous dangerous substances and articles
Packing group (IMDG)	:	III
Marine pollutant	:	No
EmS	:	F-A; S-P

14.5 Air transport (ICAO-TI / IATA-DGR)

UN-No. (ICAO)	:	-
Class (ICAO)	:	-

14.6.Special precautions for user

Other information : No supplementary information available.

15. Regulatory information

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

15.1.1. EU-Regulations

No relevant data available

15.1.2. National regulations

Regional legislation : 1993. évi XCIII. törvény a munkavédelemről,Hungarian Public Act No. XXV./2000 on chemical safety,25/2000. (IX. 30.) EüM-SzCsM együttes rendelet a munkahelyek kémiai biztonságáról,ESZCSM Regulation 33/2004 (XII. 27.),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(CLP),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),REGULATION (EC) No 2037/2000 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 June 2000 on substances that deplete the ozone layer,REGULATION (EC) No 689/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 June 2008 concerning the export and import of dangerous chemicals,REGULATION (EC) No 850/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 on persistent organic pollutants

15.2. Chemical safety assessment

Chemical Safety Assessment : For this substance a chemical safety assessment has been carried out.

16. Other information

Indication of changes:

3	Composition/information on ingredients	Modified	
14.4	Packing group (UN)	Added	
14.6	Hazard identification number (Kemler No.)	Added	
14.6	Classification code (UN)	Added	
16	Abbreviations and acronyms	Removed	

SDS changed items	:	All chapters were revised.
Data sources	:	CONCAWE registration dossier. Data arise from reference works and literature. Data relies on practical experience.
Abbreviations and acronyms	:	C&L - Classification and Labelling CAS - Chemical Abtracts Service. See www.cas.org. CMR - Carcinogen, Mutagen and Reprotoxic CONCAWE - CONservation of Clean Air and Water in Europe CSA - Chemical Safety Assessment CSR - Chemical Safety Report DMEL - Derived Minimal Effect Level DNEL - Derived No-Effect Level DSD - Dangerous Substance Directive EC - European Commission EC number - European Chemical number: EINECS, ELINCS or NLP EC50 - half maximal effective concentration ECB - European Chemicals Bureau ECHA - European CHemicals Agency EINECS - European Inventory of Existing Commercial Substances ELINCS - European List of Notified Chemical Substances ES - Exposure Scenarios ESIS - European Substances Information System GHS - Globally Harmonised System for the Classification and Labelling of Chemicals HSE - Health, Safety and Environment InChI - IUPAC International Chemical Identifier IOELV - Indicative Occupational Exposure Limit Values IUCLID - International Uniform ChemicaL Information Database IUPAC - International Union of Pure and Applied Chemistry LC50 - Lethal Concentration, 50% LD50 - Lethal Dose, 50% LOAEL - Lowest Observed Adverse Effect Level LOEL - Lowest Observed Effect Level N.A. - not applicable N.D. - Not determined NOAEL - No Observed Adverse Effect Level NOEL - No Observed Effect Level PBT - Persistent, bioaccumulative and toxic PNEC - Predicted no effect concentration ppm - parts per million PPORD - Product and Process Oriented Research and Development QSAR - Quantitative Structure Activity Relationship REACH - Registration, Evaluation and Authorization of CHemicals RMM - Risk Management Measures SDS - Safety Data Sheet TSCA - Toxic Substance Control Act (USA) VPVB - very persistent and very bioaccumulative w/w - Weight by weight
Training advice	:	Before handling, storing or using the present substance for the first time, employees must be informed. Make sure that employees are aware of the intoxication risk. Poeple wearing breathing apparatus must be appropriately trained. Special training for first aid necessary.

Precautionary statements (CLP):

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product