

# SAFETY DATA SHEET

DSP S.A.S.

Safety Data Sheet according to Reg. (EU) No 2015/830

**Product name: MOLYKOTE™ Longterm 2 Plus Extreme** 

**Revision Date: 15.01.2019** 

**Pressure Bearing Grease** 

Version: 2.0

**Date of last issue: 17.10.2018** 

Print Date: 09.03.2020

DSP S.A.S. encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

# SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: MOLYKOTE™ Longterm 2 Plus Extreme Pressure Bearing Grease

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

Identified uses: Lubricants and lubricant additives

1.3 Details of the supplier of the safety data sheet **COMPANY IDENTIFICATION** 

DSP S.A.S. 22 RUE BRUNEL 75017 PARIS **FRANCE** 

**Customer Information Number:** 33(0)156604700

SDSQuestion-EU@dupont.com

1.4 EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** +(33)-975181407 Local Emergency Contact: +(33)-975181407

ORFILA: + 33 (0)1 45 42 59 59

## SECTION 2: HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008:

Skin sensitisation - Category 1 - H317

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:

Hazard pictograms



# Signal word: WARNING

#### **Hazard statements**

H317 May cause an allergic skin reaction.

## **Precautionary statements**

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P261

Contaminated work clothing should not be allowed out of the workplace. P272

P280 Wear protective gloves.

If skin irritation or rash occurs: Get medical advice/ attention. P333 + P313 P362 + P364 Take off contaminated clothing and wash it before reuse.

P501 Dispose of contents/ container to an approved waste disposal plant.

**Contains** Pentene, 2,4,4-trimethyl-,sulfurized

## 2.3 Other hazards

No data available

# **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical nature: Molybdenum disulfide grease

3.2 Mixtures

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
CASRN 64742-52-5 EC-No. 265-155-0 Index-No. 649-465-00-7	_	>= 20,0 - <= 30,0 %	distillates (petroleum), hydrotreated heavy naphthenic	Asp. Tox 1 - H304
CASRN 68515-88-8 EC-No. 271-114-8 Index-No.	_	>= 1,4 - <= 1,6 %	Pentene, 2,4,4- trimethyl-,sulfurized	Skin Irrit 2 - H315 Skin Sens 1 - H317

Substances with a workplace exposure limit

CASRN	01-2119486977-12	>= 0,9 - <= 1,2 %	Graphite	Not classified
7782-42-5				
EC-No.				
231-955-3				
Index-No.				
_				

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### **SECTION 4: FIRST AID MEASURES**

## 4.1 Description of first aid measures

#### General advice:

If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air; if effects occur, consult a physician.

Skin contact: Wash off with plenty of water. Suitable emergency safety shower facility should be available in work area.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

**Ingestion:** No emergency medical treatment necessary.

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

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

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

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

## **SECTION 5: FIREFIGHTING MEASURES**

#### 5.1 Extinguishing media

Suitable extinguishing media: Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical

Unsuitable extinguishing media: None known.

## 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon oxides Carbon dioxide. Sulfur oxides. Carbon monoxide Sulphur oxides Metal oxides

**Unusual Fire and Explosion Hazards:** Exposure to combustion products may be a hazard to health.

# 5.3 Advice for firefighters

**Fire Fighting Procedures:** Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

**Special protective equipment for firefighters:** In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

#### SECTION 6: ACCIDENTAL RELEASE MEASURES

- **6.1 Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.
- **6.2 Environmental precautions:** Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
- **6.3 Methods and materials for containment and cleaning up:** Wipe up or scrape up and contain for salvage or disposal. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

#### 6.4 Reference to other sections:

See sections: 7, 8, 11, 12 and 13.

## **SECTION 7: HANDLING AND STORAGE**

**7.1 Precautions for safe handling:** Do not get on skin or clothing. Do not swallow. Avoid contact with eyes. Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice.

Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**7.2 Conditions for safe storage, including any incompatibilities:** Keep in properly labelled containers. Store in accordance with the particular national regulations.

Do not store with the following product types: Strong oxidizing agents. Unsuitable materials for containers: None known.

**7.3 Specific end use(s):** See the technical data sheet on this product for further information.

# SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

## 8.1 Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
distillates (petroleum),	ACGIH	TWA Inhalable	5 mg/m3
hydrotreated heavy naphthenic		fraction	
Graphite	ACGIH	TWA Respirable	2 mg/m3
		fraction	
	FR VLE	VME Alveolar	2 mg/m3
		fraction	

#### **Derived No Effect Level**

Graphite

#### Workers

Acute systemic effects		Acute local effects		Long-term systemic effects		Long-term local effects	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,2 mg/m3

#### **Consumers**

Acute systemic effects		Acute local effects Long-te		rm systemic effects		Long-term local effects			
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	813 mg/kg bw/day	n.a.	0,3 mg/m3

## **Predicted No Effect Concentration**

distillates (petroleum), hydrotreated heavy naphthenic

Compartment	PNEC		
Oral (Secondary Poisoning)	9,33 mg/kg food		

#### 8.2 Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

#### Individual protection measures

**Eye/face protection:** Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

## Skin protection

Hand protection: Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove

**Other protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. Use the following CE approved air-purifying respirator: Organic vapor cartridge, type A (boiling point >65 °C, meeting standard EN 14387).

#### **Environmental exposure controls**

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

# 9.1 Information on basic physical and chemical properties Appearance

Physical state Grease
Color black
Odor slight

Odor Threshold

pH

Not applicable

Melting point/range

No data available

No data available

No data available

No data available

Not applicable

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Flash point closed cup 210 °C

Evaporation Rate (Butyl Acetate Not applicable

= 1)

Flammability (solid, gas) Not classified as a flammability hazard

Lower explosion limitNo data availableUpper explosion limitNo data availableVapor PressureNot applicableRelative Vapor Density (air = 1)No data available

Relative Density (water = 1) 0.9

Water solubility

Partition coefficient: n
No data available

No data available

octanol/water

Auto-ignition temperatureNo data availableDecomposition temperatureNo data availableDynamic ViscosityNot applicableKinematic ViscosityNot applicableExplosive propertiesNot explosive

Oxidizing properties The substance or mixture is not classified as oxidizing.

9.2 Other information

Molecular weightNo data availableParticle sizeNo data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

# **SECTION 10: STABILITY AND REACTIVITY**

10.1 Reactivity: Not classified as a reactivity hazard.

**10.2 Chemical stability:** Stable under normal conditions.

**10.3 Possibility of hazardous reactions:** Can react with strong oxidizing agents.

10.4 Conditions to avoid: None known.

10.5 Incompatible materials: Oxidizing agents

10.6 Hazardous decomposition products: Hydrogen sulfide. Trimethyl-1-pentene.

# **SECTION 11: TOXICOLOGICAL INFORMATION**

Toxicological information appears in this section when such data is available.

**Product name: MOLYKOTE™ Longterm 2 Plus Extreme Pressure** 

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# 11.1 Information on toxicological effects

### Acute toxicity

# **Acute oral toxicity**

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

LD50, Rat, > 5 000 mg/kg Estimated.

#### Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s): LD50, Rabbit, > 2 000 mg/kg Estimated.

#### Acute inhalation toxicity

Brief exposure (minutes) is not likely to cause adverse effects.

As product: The LC50 has not been determined.

#### Skin corrosion/irritation

Brief contact may cause slight skin irritation with local redness.

Prolonged contact may cause moderate skin irritation with local redness.

#### Serious eye damage/eye irritation

May cause slight eye irritation.

#### Sensitization

For skin sensitization:

For the minor component(s):

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

# **Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

# Specific Target Organ Systemic Toxicity (Repeated Exposure)

Contains component(s) which have been reported to cause effects on the following organs in animals: Liver.

# Carcinogenicity

No relevant data found.

## **Teratogenicity**

Contains component(s) which did not cause birth defects or any other fetal effects in lab animals, even at exposure levels having an adverse effect on the mother.

# Reproductive toxicity

Contains component(s) which did not interfere with reproduction in animal studies.

#### Mutagenicity

Contains component(s) which were negative in some animal genetic toxicity studies and positive in others. Contains component(s) which were negative in animal genetic toxicity studies.

#### **Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

#### COMPONENTS INFLUENCING TOXICOLOGY:

## distillates (petroleum), hydrotreated heavy naphthenic

#### Acute inhalation toxicity

LC50, Rat, 4 Hour, dust/mist, > 5,53 mg/l OECD Test Guideline 403

#### Pentene, 2,4,4-trimethyl-,sulfurized

#### Acute inhalation toxicity

The LC50 has not been determined.

#### Graphite

## Acute inhalation toxicity

LC50, Rat, 4 Hour, dust/mist, > 2 mg/l OECD Test Guideline 403 No deaths occurred at this concentration.

## **SECTION 12: ECOLOGICAL INFORMATION**

Ecotoxicological information appears in this section when such data is available.

## 12.1 Toxicity

#### distillates (petroleum), hydrotreated heavy naphthenic

#### Acute toxicity to fish

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LL50, Pimephales promelas (fathead minnow), 96 Hour, > 100 mg/l, OECD Test Guideline 203

#### Acute toxicity to aquatic invertebrates

EL50, Daphnia magna (Water flea), 48 Hour, > 10 000 mg/l

#### Acute toxicity to algae/aquatic plants

EL50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201

NOELR, Pseudokirchneriella subcapitata (green algae), 72 Hour, 100 mg/l, OECD Test Guideline 201

## Toxicity to bacteria

NOEC, 10 min, >= 1,93 mg/l

#### Chronic toxicity to aquatic invertebrates

NOELR, Daphnia magna (Water flea), 21 d, 10 mg/l

#### Pentene, 2,4,4-trimethyl-,sulfurized

#### Acute toxicity to aquatic invertebrates

Not expected to be acutely toxic to aquatic organisms. EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l

#### Graphite

#### Acute toxicity to fish

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50, Danio rerio (zebra fish), 96 Hour, > 100 mg/l, OECD Test Guideline 203

#### Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202

### Acute toxicity to algae/aguatic plants

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201

#### Toxicity to bacteria

EC50, 3 Hour, > 1 012,5 mg/l, OECD Test Guideline 209

# 12.2 Persistence and degradability

# distillates (petroleum), hydrotreated heavy naphthenic

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails

to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail **Biodegradation:** 31 % Exposure time: 28 d

Method: OECD Test Guideline 301F

#### Pentene, 2,4,4-trimethyl-,sulfurized

Biodegradability: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Not applicable **Biodegradation: 24,6 %** Exposure time: 28 d

Method: OECD Test Guideline 301C

#### Graphite

Biodegradability: Biodegradation is not applicable.

## 12.3 Bioaccumulative potential

#### distillates (petroleum), hydrotreated heavy naphthenic

Bioaccumulation: No relevant data found.

#### Pentene, 2,4,4-trimethyl-,sulfurized

Bioaccumulation: Bioconcentration potential is low (BCF less than 100 or log Pow greater

Partition coefficient: n-octanol/water(log Pow): 12,56 estimated

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#### Graphite

Bioaccumulation: No relevant data found.

## 12.4 Mobility in soil

#### distillates (petroleum), hydrotreated heavy naphthenic

No relevant data found.

#### Pentene, 2,4,4-trimethyl-,sulfurized

Expected to be relatively immobile in soil (Koc > 5000). Partition coefficient (Koc): > 5000 Estimated.

#### Graphite

No relevant data found.

#### 12.5 Results of PBT and vPvB assessment

#### distillates (petroleum), hydrotreated heavy naphthenic

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

#### Pentene, 2,4,4-trimethyl-,sulfurized

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

#### Graphite

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

#### 12.6 Other adverse effects

# distillates (petroleum), hydrotreated heavy naphthenic

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

#### Pentene, 2,4,4-trimethyl-,sulfurized

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

#### **Graphite**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

## **SECTION 13: DISPOSAL CONSIDERATIONS**

#### 13.1 Waste treatment methods

Do not dump into any sewers, on the ground, or into any body of water. This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

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## **SECTION 14: TRANSPORT INFORMATION**

#### Classification for ROAD and Rail transport (ADR/RID):

**14.1 UN number** Not applicable

**14.2 UN proper shipping name** Not regulated for transport

14.3 Transport hazard class(es) Not applicable14.4 Packing group Not applicable

**14.5** Environmental hazards Not considered environmentally hazardous based on

available data.

**14.6 Special precautions for user** No data available.

## Classification for SEA transport (IMO-IMDG):

**14.1 UN number** Not applicable

**14.2 UN proper shipping name** Not regulated for transport

14.3 Transport hazard class(es) Not applicable14.4 Packing group Not applicable

**14.5** Environmental hazards Not considered as marine pollutant based on available data.

**14.6 Special precautions for user** No data available.

14.7 Transport in bulk according to Annex I or II of MARPOL

73/78 and the IBC or IGC

Consult IMO regulations before transporting ocean bulk

Code

## Classification for AIR transport (IATA/ICAO):

**14.1 UN number** Not applicable

**14.2 UN proper shipping name** Not regulated for transport

14.3 Transport hazard class(es) Not applicable
 14.4 Packing group Not applicable
 14.5 Environmental hazards Not applicable
 14.6 Special precautions for user No data available.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

## **SECTION 15: REGULATORY INFORMATION**

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

#### REACh Regulation (EC) No 1907/2006

This product contains only components that have been either registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH).,The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure thathis/her understanding of the regulatory status of this product is correct.

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Listed in Regulation: Not applicable

Installations classified for the protection of the environment (Environment Code R511-9) not determined

Occupational Illnesses (R-461-3, France): Table: 36 (Health effects caused by mineral or

synthetic oils or greases.)

#### **Further information**

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

# 15.2 Chemical safety assessment

Not applicable

#### SECTION 16: OTHER INFORMATION

#### Full text of H-Statements referred to under sections 2 and 3.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

# Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008

Skin Sens. - 1 - H317 - Calculation method

## Revision

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this

document.

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Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
FR VLE	France. Occupational Exposure Limits (INRS)
TWA	8-hour, time-weighted average
VME	Time Weighted Average
Asp. Tox.	Aspiration hazard
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitisation

#### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN -Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx -Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS -Emergency Schedule: ENCS - Existing and New Chemical Substances (Japan): ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG -International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory: LC50 - Lethal Concentration to 50 % of a test population: LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature: SDS - Safety Data Sheet: SVHC - Substance of Very High Concern: TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

#### **Information Source and References**

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DSP S.A.S. urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ

between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.