

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Trade name or designation of the mixture	ND-OIL 8
Registration number	-
Synonyms	None.
SDS number	6408
Product code	32450339
Issue date	25-May-2016
Version number	1,2
Revision date	26-July-2016
Supersedes date	20-July-2016
Product use	Professional use

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

Identified uses	Compressor oil for air conditioning systems
Uses advised against	None known.

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

Company name	Idemitsu Lube Europe GmbH
Address	Elberfelder Strasse 2 40213 Duesseldorf, Germany
Telephone	+49-211-175-4370
Fax	+49-211-830-2853
E-mail	HSE@rle.de
1.4 Emergency telephone number	+49 (172) 3180-285 (Mo. - Fr. 08:00 - 18:00 CET)

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture**

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

**Classification according to Regulation (EC) No 1272/2008 as amended****Health hazards**

Skin sensitisation	Category 1	H317 - May cause an allergic skin reaction.
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**Environmental hazards**

Hazardous to the aquatic environment, acute aquatic hazard	Category 1	H400 - Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term aquatic hazard	Category 2	H411 - Toxic to aquatic life with long lasting effects.

**2.2. Label elements****Label according to Regulation (EC) No. 1272/2008 as amended**

**Contains:** Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-methyl-.omega.-methoxy-, tris(nonylphenyl) phosphite

**Hazard pictograms**

**Signal word** Warning

**Hazard statements**

H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

## Precautionary statements

### Prevention

P273 Avoid release to the environment.  
P280 Wear protective gloves.

### Response

P302 + P352 IF ON SKIN: Wash with plenty of water.  
P391 Collect spillage.

### Storage

None.

### Disposal

None.

**Supplemental label information** EUH205 - Contains epoxy constituents. May produce an allergic reaction.

**2.3. Other hazards** The mixture contains no substance that fulfils the criteria of a PBT- or vPvB substance.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-methyl-.omega.-methoxy-	50 - < 100	24991-61-5 -	-	-	
<b>Classification:</b>	Skin Sens. 1;H317				
Tetradecyloxirane	1 - < 10	7320-37-8 230-786-2	-	-	M(acute) = 100 M(chronic) = 1
<b>Classification:</b>	Skin Irrit. 2;H315, Aquatic Acute 1;H400, Aquatic Chronic 1;H410				
2,6-di-tert-butyl-p-cresol	0,1 - < 3	128-37-0 204-881-4	-	-	
<b>Classification:</b>	Aquatic Acute 1;H400, Aquatic Chronic 1;H410				
Tris(methylphenyl) phosphate	0,1 - < 1	1330-78-5 215-548-8	-	-	
<b>Classification:</b>	Repr. 2;H361, Aquatic Acute 1;H400, Aquatic Chronic 1;H410				
tris(nonylphenyl) phosphite	0,1 - < 1	26523-78-4 247-759-6	-	015-202-00-4	
<b>Classification:</b>	Skin Sens. 1;H317, Aquatic Acute 1;H400, Aquatic Chronic 1;H410				

List of abbreviations and symbols that may be used above:

M: M-factor

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**Composition comments** The full text for all H-statements is displayed in section 16.

## SECTION 4: First aid measures

**General information** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 4.1. Description of first aid measures

**Inhalation** Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact** Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact** Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion** Rinse mouth. Get medical attention if symptoms occur.

**4.2. Most important symptoms and effects, both acute and delayed** May cause an allergic skin reaction.

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

## **SECTION 5: Firefighting measures**

<b>General fire hazards</b>	No unusual fire or explosion hazards noted.
<b>5.1. Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>5.2. Special hazards arising from the substance or mixture</b>	During fire, gases hazardous to health may be formed.
<b>5.3. Advice for firefighters</b>	
<b>Special protective equipment for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Special fire fighting procedures</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

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

<b>6.1. Personal precautions, protective equipment and emergency procedures</b>	
<b>For non-emergency personnel</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
<b>For emergency responders</b>	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.
<b>6.2. Environmental precautions</b>	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
<b>6.3. Methods and material for containment and cleaning up</b>	<p>The product is immiscible with water and will spread on the water surface. Prevent entry into waterways, sewer, basements or confined areas.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use.</p>
<b>6.4. Reference to other sections</b>	For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

## **SECTION 7: Handling and storage**

<b>7.1. Precautions for safe handling</b>	Avoid contact with skin and eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
<b>7.2. Conditions for safe storage, including any incompatibilities</b>	<p>Store away from incompatible materials (see Section 10 of the SDS).</p> <p>TRGS 510 storage class: 10</p> <p>Store in tightly closed original container in a dry, cool and well-ventilated place.</p>
<b>7.3. Specific end use(s)</b>	Compressor oil for air conditioning systems

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

### **8.1. Control parameters**

**Occupational exposure limits**

<b>Germany Components</b>	<b>Type</b>	<b>Value</b>	<b>Form</b>
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	STEL	40 mg/m <sup>3</sup>	Inhalable fraction and vapor.
<b>Comments:</b>	15 minutes reference period		

**Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)**

Components	Type	Value	Form
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	TWA	10 mg/m3	Inhalable fraction and vapor.

**Comments:** 15 minutes reference period

**Germany - TRGS 900**

Components	Type	Value	Form
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	STEL	40 mg/m3	Vapor and aerosol, inhalable fraction.

**Comments:** 15 minutes reference period

**Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace**

Components	Type	Value	Form
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	AGW	10 mg/m3	Vapor and aerosol, inhalable fraction.

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Recommended monitoring procedures** Follow standard monitoring procedures.

**Derived no effect levels (DNELs)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

**8.2. Exposure controls**

**Appropriate engineering controls** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Individual protection measures, such as personal protective equipment**

**General information** Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Eye/face protection** Wear tight-fitting goggles or face shield.

**Skin protection**

**- Hand protection** Nitrile gloves are recommended.  
Glove thickness > 0.3 mm.  
Protective gloves complying with EN 374.

**- Other** Wear suitable protective clothing.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**Hygiene measures** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**Environmental exposure controls** Inform appropriate managerial or supervisory personnel of all environmental releases.

**SECTION 9: Physical and chemical properties**

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

<b>Appearance</b>	Clear.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Colour</b>	Clear.
<b>Odour</b>	Characteristic
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	204,0 °C (399,2 °F)

<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Vapour pressure</b>	Not available.
<b>Vapour density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble.
<b>Solubility (other)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Not explosive.
<b>Oxidising properties</b>	Not oxidising.

## 9.2. Other information

<b>Density</b>	0,9944 g/cm <sup>3</sup>
<b>Kinematic viscosity</b>	9,234 mm <sup>2</sup> /s @ 100 °C 43,32 mm <sup>2</sup> /s @ 40°C
<b>VOC (EU)</b>	Not applicable.
<b>VOC (CH)</b>	< 3 %

## **SECTION 10: Stability and reactivity**

<b>10.1. Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>10.2. Chemical stability</b>	Material is stable under normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>10.4. Conditions to avoid</b>	Contact with incompatible materials.
<b>10.5. Incompatible materials</b>	Strong oxidising agents.
<b>10.6. Hazardous decomposition products</b>	Irritating and/or toxic fumes and gases may be emitted upon the products decomposition. Oxides of phosphorus. Carbon oxides.

## **SECTION 11: Toxicological information**

<b>General information</b>	Occupational exposure to the substance or mixture may cause adverse effects.
<b>Information on likely routes of exposure</b>	
<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	May cause an allergic skin reaction.
<b>Eye contact</b>	Based on available data, the classification criteria are not met.
<b>Ingestion</b>	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.
<b>Symptoms</b>	May cause an allergic skin reaction.
<b>11.1. Information on toxicological effects</b>	
<b>Acute toxicity</b>	Based on available data, the classification criteria are not met.
<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met.
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.
<b>Respiratory sensitisation</b>	Based on available data, the classification criteria are not met.
<b>Skin sensitisation</b>	May cause an allergic skin reaction.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.

<b>Specific target organ toxicity - single exposure</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.
<b>Mixture versus substance information</b>	No information available.
<b>Other information</b>	Not available.

## **SECTION 12: Ecological information**

**12.1. Toxicity** Very toxic to aquatic life with long lasting effects.

<b>Components</b>		<b>Species</b>	<b>Test results</b>
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)			
Algae	EC50	Scenedesmus subspicatus	> 0,4 mg/l, 72 hours
<b>Aquatic</b>			
Crustacea	EC0	Daphnia magna	> 0,31 mg/l, 48 hours
Fish	LC0	Danio rerio	> 0,5 mg/l, 96 hours
Tetradecyloxirane (CAS 7320-37-8)			
<i>Acute</i>			
Other	EC50	Pseudokirchnerella subcapitata	0,002 mg/l, 72 Hours (OECD 209)
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Daphnia magna	0,047 mg/l, 48 Hours
Fish	LC50	Pimephales promelas	<= 0,191 mg/l, 96 Hours
Tris(methylphenyl) phosphate (CAS 1330-78-5)			
<b>Aquatic</b>			
Fish	LC50	Oncorhynchus mykiss	0,21 - 0,32 mg/l, 96 hours
tris(nonylphenyl) phosphite (CAS 26523-78-4)			
<b>Aquatic</b>			
Crustacea	EC50	Daphnia magna	0,42 mg/l, 48 hours

### **12.2. Persistence and degradability**

#### **Biodegradability**

##### **Percent degradation (Aerobic biodegradation)**

Tetradecyloxirane 60 - 70 % OECD 301 B, 10-day window not fulfilled  
Test Duration: 28 days

### **12.3. Bioaccumulative potential**

#### **Partition coefficient n-octanol/water (log Kow)**

Tris(methylphenyl) phosphate 5,11

**12.4. Mobility in soil** No data available.

**12.5. Results of PBT and vPvB assessment** The mixture contains no substance that fulfils the criteria of a PBT- or vPvB substance.

**12.6. Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## **SECTION 13: Disposal considerations**

### **13.1. Waste treatment methods**

**Residual waste** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

#### **EU waste code**

13 02 08  
15 01 10

**Disposal methods/information** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Special precautions** Dispose in accordance with all applicable regulations.

## **SECTION 14: Transport information**

### **ADR**

**14.1. UN number** UN3082  
**14.2. UN proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tetradecyloxirane, Tris(methylphenyl) phosphate)  
**14.3. Transport hazard class(es)**  
Class 9  
Subsidiary risk -  
Label(s) 9  
Hazard No. (ADR) 90  
Tunnel restriction code E  
**14.4. Packing group** III  
**14.5. Environmental hazards** Yes  
**14.6. Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.  
**Classification code** M6  
**Special provisions** 274,335,375, 601

### **IATA**

**14.1. UN number** UN3082  
**14.2. UN proper shipping name** Environmentally hazardous substance, liquid, n.o.s. (Tetradecyloxirane, Tris(methylphenyl) phosphate)  
**14.3. Transport hazard class(es)**  
Class 9  
Subsidiary risk -  
**14.4. Packing group** III  
**Packaging instructions** 964  
**Packaging instructions cargo only** 964  
**14.5. Environmental hazards** Yes  
**ERG Code** 9L  
**14.6. Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.  
**Other information**  
**Passenger and cargo aircraft** Allowed with restrictions.  
**Cargo aircraft only** Allowed with restrictions.  
**Maximum net quantity packaging - Passenger and cargo aircraft** 450 L  
**Maximum net quantity packaging cargo only** 450 L  
**Maximum net quantity packaging - Limited quantity** 30.00 kg  
**Special provisions** A97, A158, A197

### **IMDG**

**14.1. UN number** UN3082  
**14.2. UN proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tetradecyloxirane, Tris(methylphenyl) phosphate), Marine pollutant  
**14.3. Transport hazard class(es)**  
Class 9  
Subsidiary risk -  
**14.4. Packing group** III  
**14.5. Environmental hazards**  
Marine pollutant Yes  
**EmS** F-A, S-F  
**14.6. Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.  
**Special provisions** 274,335,969

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

## **SECTION 15: Regulatory information**

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

#### **EU regulations**

Not applicable.

#### **Restrictions on use**

Not applicable.

#### **Other regulations**

This Safety Data Sheet complies with the requirements of Regulation (EC) No 2015/830.

#### **Other EU regulations**

##### **Directive 94/33/EC on the protection of young people at work, as amended**

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-methyl-.omega.-methoxy- (CAS 24991-61-5)  
tris(nonylphenyl) phosphite (CAS 26523-78-4)

**VOC (EU):** Not applicable.

##### **Directive 2012/18/EU on major accident hazards involving dangerous substances**

Category: E1

#### **National regulations**

Follow national regulation for work with chemical agents.

### **15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out.

#### **Water hazard class**

**VwVwS (According to Annex IV)**

WGK1

## **SECTION 16: Other information**

### **List of abbreviations**

AC: Article category.  
acc., acc.to: according, according to.  
ACGIH: American Conference of Governmental Industrial Hygienists.  
AFNOR: French Institute for Standards (Association Française de Normalisation).  
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures).  
ADR: European agreement concerning the international carriage of dangerous goods by road (Accord européen relatif transport des marchandises dangereuses par route).  
AGW: Occupational threshold limit value (Arbeitsplatzgrenzwert – Germany).  
AICS: Australian Inventory of Chemical Substances.  
ANSI: American National Standards Institute.  
AOEL: Acceptable Operator Exposure Level.  
AOX: adsorbable organic halogen compounds.  
approx.: approximately.  
ASTM: ASTM International.  
ATE: Acute Toxicity Estimate according to REGULATION (EC) No 1272/2008 (CLP).  
BAM: Federal Institute for Materials Research and Testing, Germany (Bundesanstalt für Materialforschung und -prüfung).  
Maximum permissible concentration of biological working substances (BAT: Biologische Arbeitsstofftoleranzwerte).  
BAuA: Federal Institute for Occupational Health and Safety, Germany (Bundesanstalt für Arbeitsschutz und Arbeitsmedizin).  
BCF: Bio-concentration factor.  
BET: Brunauer-Emmett-Teller.  
BLV: Biological Limit Value.  
BLV: Biological Limit Value (BGW: Biologischer Grenzwert, Austria).  
BMGV: Biological Monitoring Guidance Value (EH40,UK).  
BSI: British Standards Institution.  
BS: British Standard.  
BOD5: Biochemical oxygen demand within 5 days.  
BOD: Biochemical oxygen demand.  
bw: Body weight.  
calcd.: calculated.  
CAS: Chemical Abstract Service.



CEN: European Committee for Standardization (Comité Européen de Normalisation).  
CESIO: European Committee on Organic Surfactants and their Intermediates (Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques).  
ChemRRV: Ordinance on the risk reduction related to chemical products (ChemRRV: Chemikalien-Risikoreduktions-verordnung, Switzerland).  
CLP: Classification, Labeling and Packaging REGULATION (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures.  
CMR: Substances classified as Carcinogenic, Mutagenic or toxic for Reproduction.  
CNS: Central Nervous System.  
CNT: Carbon nanotubes.  
COD: Chemical Oxygen Demand.  
CSA: Chemical Safety Assessment.  
CSR: Chemical Safety Report.  
DETEC: Swiss Federal Department of the Environment, Transport, Energy and Communications.  
DIN: German Standards Institute / German industrial norm (Deutsches Institut für Normung / Deutsche Industrienorm).  
DMEL: Derived Minimum Effect Level.  
DNEL: Derived No Effect Level.  
DOC: Dissolved organic carbon.  
DPD: Directive 1999-45-EC / Dangerous Preparations Directive.  
DSD: Directive 67/548-EC / Dangerous Substances Directive.  
DSL: Canada, Domestic Substances List.  
DU: Downstream User.  
dw: dry weight.  
e.g.: For example, for instance.  
EBW: Exposure Based Waiving.  
EC: European Community.  
EC50: Effective Concentration 50%.  
ECHA: European Chemical Agency.  
EINECS: European Inventory of Existing Commercial Chemical Substances.  
ELINCS: European List of Notified Chemical Substances.  
EN: European norm.  
ENCS: Japan, Inventory of Existing and New Chemical Substances.  
EPA: United States Environmental Protection Agency.  
ERC: Environmental release category.  
ES: Exposure scenario.  
EU: European Union  
EUSES: European Union System for the Evaluation of Substances.  
EWC/EWL: European Waste Catalogue.  
GCL: General concentration limit.  
gen.: general.  
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.  
GLP: Good Laboratory Practice.  
GW/VL: Occupational exposure limit value.  
GW-kw: Occupational exposure limit value - short term.  
GW-M/VL-M: Occupational exposure limit value – "Ceiling".  
GWP: Global Warming Potential.  
HPV: High Production Volume Chemicals.  
HEPA: High Efficiency Particulate Air.  
IARC: International Agency for Research on Cancer.  
IATA: International Air Transport Association.  
IBC: Intermediate Bulk Container.  
IBC Code: International Bulk Chemical (Code) (International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk).  
ICAO: International Civil Aviation Organization.  
IC50: Inhibition Concentration 50%.  
IECSC: Inventory of Existing Chemical Substances in China.  
IMDG Code: International Maritime Dangerous Goods Code.  
IMO: International Maritime Organization.  
incl.: including, inclusive.  
ISO: International Standards Organization.  
IUCLID: International Uniform Chemical Information Database.  
IUPAC: International Union for Pure Applied Chemistry.  
KECI: Korea Existing Chemicals Inventory.  
LCA: Life Cycle Assessment.  
LC: Lethal Concentration.  
LC50: Lethal Concentration 50%.  
LCLo: Lowest published lethal concentration.

LD50: Lethal Dose 50%.

LEV: Local exhaust ventilation.

LOAEL: Lowest observed adverse effect level.

LOEC: Lowest observable effect concentration.

LOEL: Lowest observable effect level.

LPV: Low Production Volume Chemicals.

LQ: Limited Quantities.

Air Quality Control Regulation (LRV: Luftreinhalteverordnung, Switzerland).

TLV-STEL: Threshold limit value - Short-term exposure limit / Technical reference concentration - short-time value (TRK-Kzw = Technische Richtkonzentration - Kurzzeitwert).

Maximum allowable workplace concentration – instantaneous value (MAK-Mow: Maximale Arbeitsplatzkonzentration – Momentanwert, Austria)

Maximum allowable workplace concentration – daily mean value / Technical standard concentration – daily mean value (MAK-Tmw, TRK-Tmw : Maximale Arbeitsplatzkonzentration - Tagesmittelwert / TRK-Tmw = Technische Richtkonzentration – Tagesmittelwert, Austria).

MAK: Threshold limit values Germany (Maximale Arbeitsplatzkonzentration - DFG).

MARPOL: International Convention for the Prevention of Pollution From Ships.

MTD: Maximum tolerated dose.

MWCNT: Multi-walled carbon nanotubes.

n.a.: not applicable.

N/A: Not available.

n.d.: not determined.

NLP: No Longer Polymers.

NDSL: Canada, Non-Domestic Substances List.

NF: French Norm (See AFNOR).

NFPA: National Fire Protection Association.

NIOSH: National Institute for Occupational Safety & Health.

NOAEC: No Observed Adverse Effect Concentration.

NOAEL: No observed adverse effect level.

NOEC: No observed effect concentration.

NOEL: No observed effect level.

NTP: National Toxicology Program.

NZIoC: New Zealand Inventory of Chemicals.

ODP: Ozone Depletion Potential.

OECD: Organization for Economic Cooperation and Development.

OEL: Occupational Exposure Limit.

org.: organic.

OSHA: Occupational Safety & Health Administration.

PAH: Polycyclic Aromatic Hydrocarbons.

PBT: Persistent, bioaccumulative, toxic.

PC: Product category.

PE: Polyethylene.

PEC: Predicted Environmental Concentration.

PEL: Permissible Exposure Limit.

PIC: Prior Informed Consent.

PICCS: Philippines Inventory of Commercial Chemical Substances.

PNEC: Predicted No Effect Concentration.

POCP: Photochemical ozone creation potential (Photochemisches Ozonbildungspotenzial).

POP: Persistent Organic Pollutant.

PPORD: Product and Process Oriented Research and Development.

PPE: Personal Protective Equipment.

PROC: Process category.

RA: Risk Assessment.

RAR: Risk Assessment Report.

RCRA: Resource Conservation Recovery Act.

REACH: Registration, Evaluation and Authorization of Chemicals (REGULATION (EC) No 1907/2006 concerning Registration, Evaluation Authorization and Restriction of Chemicals).

RID: Regulations concerning the international carriage of dangerous goods by rail (Règlement International concernant le transport de marchandises dangereuses par chemin de fer).

RMM: Risk Management Measure.

RTECS: Registry of Toxic Effects of Chemical Substances.

QSAR: Quantitative Structure Activity Relation.

SARA: Superfund Amendments and Reauthorization Act.

SADT: Self-Accelerating Decomposition Temperature.

SCL: Specific concentration limit.

SEA: socio economic analysis.

STEL: Short-term Exposure Limit.

STP: Sewage treatment plant.

SU: Sector of use.  
SVHC: Substance of Very High Concern.  
SWCNT: single-walled carbon nanotubes.  
ThOD: Theoretical oxygen demand.  
TOC: Total Organic Carbon.  
TLV: Threshold Limit Value.  
TRA: Targeted Risk Assessment.  
TRGS: Technical Rules for Hazardous Substances (German Standard)  
TSCA: Toxic Substance Control Act.  
TWA: Time Weighted Average.  
UC: Use category.  
UDS: Use descriptor system.  
UEC: Use and exposure categories.  
UN: United Nations.  
UN RTDG: United Nations Recommendations on the Transport of Dangerous Goods.  
UVCB: Unknown or Variable Composition, Complex Reaction Products, and Biological Materials.  
Regulation on combustible liquids (VbF: Verordnung über brennbare Flüssigkeiten, Austria).  
Regulation of the Austria Minister for Labor and Social Affairs regarding health surveillance at the workplace (VGÜ = Verordnung des Bundesministers für Arbeit und Soziales über die Gesundheitsüberwachung am Arbeitsplatz).  
VOC: Volatile organic compounds.  
vPvB: very Persistent, very Bioaccumulative.  
VwVwS : Administrative Regulation water-polluting substances (German Regulation).  
WEL-TWA: Workplace Exposure Limit-Long term exposure limit (8-hour TWA(=time weighted average)reference period).  
WEL-STEL: Workplace Exposure Limit-Short term exposure limit (15-minute reference period).  
WGK: Water hazard class (German regulation)  
WoE: Weight of evidence.  
WHMIS: Workplace Hazardous Materials Information System.  
WHO: World Health Organization.  
wwt: wet weight.

#### References

#### Information on evaluation method leading to the classification of mixture

#### Full text of any H-statements not written out in full under Sections 2 to 15

Not available.  
The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H361 Suspected of damaging fertility or the unborn child.  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.

#### Revision information

#### Training information

#### Disclaimer

Product and Company Identification: Product and Company Identification  
Follow training instructions when handling this material.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.