SAFETY DATA SHEET

according to regulation (EU) No 2015/830

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

1.1. Product identifier

Trade name or designation of the mixture	Scan spray stone
Registration number	-
Synonyms	None.
SDS number	5349
Product code	500600
Issue date	28-October-2015
Version number	1,0
Revision date	28-October-2015
Product use	Professional use

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

Identified uses	Separation spray
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Company name	Dentaco GmbH & Co.KG
Address	Max-Keith-Str. 46 45136 Essen, Germany
Telephone number	+ 49 (0) 201/ 8098290
Fax	+ 49 (0) 201/ 80982999
Homepage	www.dentaco.de ; info@dentaco.de
E-mail	HSE@rle.de
1.4 Emergency telephone number	+ 49 (0) 201/ 8098290 (Mo. - Fr. 09:00 - 17:00)

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

Physical hazards		
Aerosols	Category 1	H222 - Extremely flammable aerosol. H229 - Pressurized container: May burst if heated.
Health hazards		
Specific target organ toxicity - single exposure	Category 3 narcotic effects	H336 - May cause drowsiness or dizziness.
Aspiration hazard	Category 1	H304 - May be fatal if swallowed and enters airways.
Environmental hazards		
Hazardous to the aquatic environment, long-term aquatic hazard	Category 3	H412 - Harmful to aquatic life with long lasting effects.

2.2. Label elements

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

Contains: Pentane

Hazard pictograms

Signal word Danger

Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurized container: May burst if heated.
H304	May be fatal if swallowed and enters airways.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.

Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P312	Call a POISON CENTER/doctor if you feel unwell.
P331	Do NOT induce vomiting.

Storage

P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal None.

Supplemental label information None.

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
Butane	50 - < 100	106-97-8 203-448-7	-	601-004-00-0	Note U, Note C
Classification:	Flam. Gas 1;H220, Press. Gas;H280				
Propane	10 - < 25	74-98-6 200-827-9	-	601-003-00-5	Note U
Classification:	Flam. Gas 1;H220, Press. Gas;H280				
Pentane	5 - < 15	109-66-0 203-692-4	-	601-006-00-1	#, Note C
Classification:	Flam. Liq. 2;H225, Asp. Tox. 1;H304, STOT SE 3;H336, Aquatic Chronic 2;H411				
Isobutane	1 - < 10	75-28-5 200-857-2	-	601-004-00-0	Note U, Note C
Classification:	Flam. Gas 1;H220, Press. Gas;H280				
Ethanol	1 - 2	64-17-5 200-578-6	01-2119457610-43-XXXX	603-002-00-5	Eye Irrit. 2 H319 , C >= 50.0%
Classification:	Flam. Liq. 2;H225, Eye Irrit. 2;H319				

List of abbreviations and symbols that may be used above:
#: This substance has been assigned Community workplace exposure limit(s).
Note: Regulation No. 1272/2008 - Annex VI

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 Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician if you feel unwell.

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	Call a physician or poison control centre immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
4.2. Most important symptoms and effects, both acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Aspiration may cause pulmonary oedema and pneumonitis.
4.3. Indication of any immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards	Extremely flammable aerosol.
5.1. Extinguishing media	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
5.2. Special hazards arising from the substance or mixture	Contents under pressure. Pressurised container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.
5.3. Advice for firefighters	
Special protective equipment for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Special fire fighting procedures	Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In the event of fire and/or explosion do not breathe fumes.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8.
For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.
6.2. Environmental precautions	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.
6.3. Methods and material for containment and cleaning up	Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapours or divert vapour cloud drift. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.
6.4. Reference to other sections	For personal protection, see section 8. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Pressurised container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.
7.2. Conditions for safe storage, including any incompatibilities	Level 1 Aerosol. Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Use care in handling/storage. TRGS 510 storage class: 2B
7.3. Specific end use(s)	Separation spray

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Germany

Components	Type	Value
Butane (CAS 106-97-8)	STEL	9600 mg/m3
		4000 ppm
Ethanol (CAS 64-17-5)	STEL	1920 mg/m3
Comments:	15 minutes average value	
		1000 ppm
Comments:	15 minutes average value	
Isobutane (CAS 75-28-5)	STEL	9600 mg/m3
		4000 ppm
Pentane (CAS 109-66-0)	STEL	6000 mg/m3
Comments:	15 minutes average value	
		2000 ppm
Comments:	15 minutes average value	
Propane (CAS 74-98-6)	STEL	7200 mg/m3
		4000 ppm

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

Components	Type	Value
Butane (CAS 106-97-8)	TWA	2400 mg/m3
		1000 ppm
Ethanol (CAS 64-17-5)	TWA	960 mg/m3
		500 ppm
Isobutane (CAS 75-28-5)	TWA	2400 mg/m3
		1000 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m3
		1000 ppm
Propane (CAS 74-98-6)	TWA	1800 mg/m3
		1000 ppm

Germany - TRGS 900

Components	Type	Value
Butane (CAS 106-97-8)	STEL	9600 mg/m3
Comments:	15 minutes average value	
		4000 ppm
Comments:	15 minutes average value	
Ethanol (CAS 64-17-5)	STEL	1920 mg/m3
Comments:	15 minutes average value	
		1000 ppm
Comments:	15 minutes average value	
Isobutane (CAS 75-28-5)	STEL	9600 mg/m3
Comments:	15 minutes average value	
		4000 ppm
Comments:	15 minutes average value	
Pentane (CAS 109-66-0)	STEL	6000 mg/m3
Comments:	STV 15 minutes average value	
		2000 ppm
Comments:	STV 15 minutes average value	
Propane (CAS 74-98-6)	STEL	7200 mg/m3
Comments:	15 minutes average value	
		4000 ppm
Comments:	15 minutes average value	

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

Components	Type	Value	Form
Butane (CAS 106-97-8)	AGW	2400 mg/m3	
		1000 ppm	
Ethanol (CAS 64-17-5)	AGW	960 mg/m3	

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

Components	Type	Value	Form
		500 ppm	
Isobutane (CAS 75-28-5)	AGW	2400 mg/m3	
		1000 ppm	
Pentane (CAS 109-66-0)	AGW	3000 mg/m3	
		1000 ppm	
Propane (CAS 74-98-6)	AGW	1800 mg/m3	
		1000 ppm	
Titanium dioxide (CAS 13463-67-7)	AGW	10 mg/m3	Inhalable fraction.
		1,25 mg/m3	Respirable fraction.

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU

Components	Type	Value
Pentane (CAS 109-66-0)	TWA	3000 mg/m3
		1000 ppm

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

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no-effect level (DNEL)

Components	Type	Route	Value	Form
Ethanol (CAS 64-17-5)	Consumer	Dermal	206 mg/kg/day	-
Comments: Long term exposure systemic effects				
		Inhalation	950 mg/m3	-
Comments: Short term exposure - local effects				
		Inhalation	114 mg/m3	
Comments: Long term exposure systemic effects				
		Oral	87 mg/kg/day	-
Comments: Long term exposure systemic effects				
	Professional	Dermal	343 mg/kg/day	-
Comments: Long term exposure systemic effects				
		Inhalation	950 mg/m3	-
Comments: Long term exposure systemic effects				
		Inhalation	1900 mg/m3	
Comments: Short term exposure - local effects				
Titanium dioxide (CAS 13463-67-7)	Consumer	Oral	700 mg/kg/day	-
Comments: Long term exposure systemic effects				
	Industry	Inhalation	10 mg/m3	-
Comments: Long term Local effects				
	Professional	Inhalation	10 mg/m3	-
Comments: Long term Local effects				

Predicted no effect concentrations (PNECs)

Components	Type	Route	Value	Form
Ethanol (CAS 64-17-5)	Not applicable	Oral	0,72 mg/g	
		Sediment	0,0036 mg/g	Fresh water
		Soil	0,00063 mg/g	
		STP	580 mg/l	
		Water	2,75 mg/l	Intermittent release
		Water	0,96 mg/l	Fresh water
		Water	0,79 mg/l	Seawater
Titanium dioxide (CAS 13463-67-7)	Not applicable	Floor	100 mg/kg	
		Oral	1667 mg/kg	Feed (oral)
		Sediment	1000 mg/kg	Fresh water
		Sediment	100 mg/kg	Seawater
		STP	100 mg/l	
		Water	1 mg/l	Seawater
		Water	0,61 mg/l	Intermittent release
		Water	0,127 mg/l	Fresh water

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	Use personal protective equipment as required. 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	If contact is likely, safety glasses with side shields are recommended.
Skin protection	
- Hand protection	For prolonged or repeated skin contact use suitable protective gloves.
- 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	When using do not smoke. 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

Appearance	
Physical state	Aerosol.
Form	Aerosol
Colour	White.
Odour	Characteristic
Odour threshold	Not available.
pH	Not available.
Ignition temperature	285 °C (545 °F)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	36 °C (96,8 °F)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	1,4 %
Explosive limit – upper (%)	10,9 %
Vapour pressure	2700 hPa
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Solubility (other)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	In use, may form flammable/explosive vapour-air mixture.
Oxidising properties	Not available.

9.2. Other information

VOC (EU)	Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Strong oxidising agents.
10.6. Hazardous decomposition products	Carbon monoxide, carbon dioxide and other hydrocarbon fragments.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	Based on available data, the classification criteria are not met.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Aspiration may cause pulmonary oedema and pneumonitis.

11.1. Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways. Narcotic effects.
Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.
Respiratory sensitisation	Based on available data, the classification criteria are not met.
Skin sensitisation	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	May be fatal if swallowed and enters airways.
Mixture versus substance information	No information available.
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity	Harmful to aquatic life with long lasting effects.
12.2. Persistence and degradability	No data is available on the degradability of this product.
12.3. Bioaccumulative potential	
Bioconcentration factor (BCF)	Not available.
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 product.

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	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company. 16 03 05 15 01 04
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. 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	UN1950
14.2. UN proper shipping name	AEROSOLS, flammable
14.3. Transport hazard class(es)	
Class	2
Subsidiary risk	-
Label(s)	2.1
Hazard No. (ADR)	Not available.
Tunnel restriction code	D
14.4. Packing group	Not applicable.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	190, 327, 344,625
Classification code	5F

IATA

14.1. UN number	UN1950
14.2. UN proper shipping name	Aerosols, flammable
14.3. Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
14.4. Packing group	Not applicable.
Packaging instructions	203
Packaging instructions cargo only	203
14.5. Environmental hazards	No.
ERG Code	10L
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.
Maximum net quantity packaging - Passenger and cargo aircraft	75 kg
Maximum net quantity packaging cargo only	150 kg
Maximum net quantity packaging - Limited quantity	30.00 kg
Special provisions	A145,A167,A802

IMDG

14.1. UN number	UN1950
14.2. UN proper shipping name	AEROSOLS
14.3. Transport hazard class(es)	
Class	2

Subsidiary risk	-
14.4. Packing group	Not applicable.
14.5. Environmental hazards	
Marine pollutant	No.
EmS	F-D,S-U
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	63,190,277,327,344,959
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.

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 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended

Pentane (CAS 109-66-0)

VOC (EU): Not applicable

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

Category: P3a

National regulations Follow national regulation for work with chemical agents.

Water hazard class

VwVwS (According to Annex IV) WGK2

15.2. Chemical safety assessment No Chemical Safety Assessment has been carried out.

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 merchandises 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 Not available.

Information on evaluation method leading to the classification of mixture The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

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

H220 Extremely flammable gas.
H225 Highly flammable liquid and vapour.
H280 Contains gas under pressure; may explode if heated.
H304 May be fatal if swallowed and enters airways.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

Revision information None.

Training information Follow training instructions when handling this material.

Disclaimer 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.