SAFETY DATA SHEET

according to regulation (EU) No 453/2010

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

1.1. Product identifier

Trade name or designation of the mixture	Lötflussmittel / Flux
Registration number	-
Synonyms	X33-12i
Product code	7356
Issue date	18-May-2015
Version number	1.0
Revision date	18-May-2015
Product use	Industrial use

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

Identified uses	Soft soldering
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Company name	STANNOL GmbH Oskarstr. 3 - 7 42283 Wuppertal Deutschland
Telephone number	+49 (0) 202 585 - 732 (Mo. - Fr. 08:00 - 16:00)
Fax	+49 (0) 202 585 - 155
Homepage	www.stannol.de
E-mail	HSE@RLE.de
1.4 Emergency telephone number	+49 (0) 202 585 - 732 (Mo. - Fr. 08:00 - 16:00)

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 Directive 67/548/EEC or 1999/45/EC as amended

Classification	F;R11, Xi;R36, R67

The full text for all R-phrases is displayed in section 16.

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

Physical hazards		
Flammable liquids	Category 2	H225 - Highly flammable liquid and vapour.
Health hazards		
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Specific target organ toxicity - single exposure	Category 3 narcotic effects	H336 - May cause drowsiness or dizziness.

2.2. Label elements

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

Contains: Propan-2-ol

Hazard pictograms

Signal word Danger

Hazard statements

H225	Highly flammable liquid and vapour.

H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Precautionary statements

Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing vapours.
P280	Wear protective gloves and eye/face protection.

Response

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor if you feel unwell.

Storage

P403 + P235	Store in a well-ventilated place. Keep cool.
P404	Store in a closed container.

Disposal None.

Supplemental label information EUH208 - Contains 2,3-dibromo-2-butene-1,4-diol. 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
Propan-2-ol	80 - < 90	67-63-0 200-661-7	01-2119457558-25-XXXX	603-117-00-0	
Classification:	**DSD:** F;R11, Xi;R36, R67				
	CLP: Flam. Liq. 2;H225, Eye Irrit. 2;H319, STOT SE 3;H336				
2,3-dibromo-2-butene-1,4-diol	0.1 -< 1	3234-02-4 221-779-5	-	-	
Classification:	**DSD:** R43				
	CLP: Skin Sens. 1;H317				

List of abbreviations and symbols that may be used above:
CLP: Regulation No. 1272/2008.
DSD: Directive 67/548/EEC.

Composition comments The full text for all R- and H-phrases is displayed in section 16.

SECTION 4: First aid measures

General information Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

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 Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. 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 drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards Highly flammable liquid and vapour.

5.1. Extinguishing media

Suitable extinguishing media Alcohol resistant foam. Water fog. 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 Vapours may form explosive mixtures with air. Vapours may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire fighting procedures In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

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. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapour. 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. Wear appropriate protective equipment and clothing during clean-up. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil etc) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

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 Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapour. Avoid contact with eyes. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s) Soft soldering

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Propan-2-ol (CAS 67-63-0)	STEL	1250 mg/m3
		500 ppm
	TWA	999 mg/m3
		400 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
[2-(2-methoxymethylethoxy)methylethoxy]propanol (CAS 25498-49-1)	Consumer	Dermal	41 µg/kg bw/day	
Comments: Long term exposure systemic effects				
		Inhalation	19 mg/m3	
Comments: Long term exposure systemic effects				
		Oral	8.2 µg/kg bw/day	
Comments: Long term exposure systemic effects				
	Professional	Dermal	96 µg/kg bw/day	
Comments: Long term exposure systemic effects				
		Inhalation	187 mg/m3	
Comments: Long term exposure systemic effects				
Propan-2-ol (CAS 67-63-0)	Consumer	Dermal	319 mg/kg/BW/day	
Comments: Long term exposure systemic effects				
		Inhalation	89 mg/m3	
Comments: Long term exposure systemic effects				
		Oral	26 mg/kg/BW/day	
Comments: Long term exposure systemic effects				
	Professional	Dermal	888 mg/kg/BW/day	
Comments: Long term exposure systemic effects				
		Inhalation	500 mg/m3	
Comments: Long term exposure systemic effects				
Reaction mass of dimethyl glutarate and dimethyl succinate and dimethyl adipate	Consumer	Inhalation	5 mg/m3	
Comments: Long term exposure - local effects				
	Professional	Inhalation	8.3 mg/m3	
Comments: Long term exposure - local effects				

Predicted no effect concentrations (PNECs)

Components	Type	Route	Value	Form
[2-(2-methoxymethylethoxy)methylethoxy]propanol (CAS 25498-49-1)	Not applicable	Freshwater	116.2 mg/l	
		Not applicable	43.3 mg/kg	
Comments: Seawater				
		Seawater	11.62 mg/l	
		Sediment	433.4 mg/kg	
Comments: Freshwater				
		Soil	18.52 mg/kg	
		Wastewater treatment plant	200 mg/l	
		Water	1161.9 mg/l	
Comments: Intermittent release				
Propan-2-ol (CAS 67-63-0)	Not applicable	Freshwater	140.9 mg/l	
		Oral	0.16 mg/g	
Comments: Feed (oral)				
		Seawater	140.9 mg/l	
		Sediment	0.552 mg/g	
Comments: Seawater				
		Sediment	0.552 mg/g	
Comments: Freshwater				
		Soil	0.028 mg/g	
		STP	2251 mg/l	
		Water	140.9 mg/l	
Comments: Intermittent release				

Components	Type	Route	Value	Form
Reaction mass of dimethyl glutarate and dimethyl succinate and dimethyl adipate	Not applicable	Freshwater	0.018 mg/l	
		Seawater	0.0018 mg/l	
		Sediment	0.16 mg/kg	
Comments: Freshwater				
		Sediment	0.016 mg/kg	
Comments: Seawater				
		Soil	0.09 mg/kg	
		STP	10 mg/l	
		Water	0.18 mg/l	
Comments: Intermittent release				

8.2. Exposure controls

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. 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. Provide eyewash station. Eye wash fountain and emergency showers are recommended.

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 Wear safety glasses with side shields (or goggles).

Skin protection

- Hand protection Wear protective gloves.

- Other Wear suitable protective clothing.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

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 Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Colour Colourless.

Odour Not available.

Odour threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range 82 °C (179.6 °F)

Flash point 12.0 °C (53.6 °F)

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapour pressure Not available.

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	Not explosive.
Oxidizing properties	Not oxidizing.
9.2. Other information	
Density	0.82 g/cm³
VOC (CH)	87 %

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	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
10.5. Incompatible materials	Acids. Strong oxidising agents.
10.6. Hazardous decomposition products	No hazardous decomposition products are known.

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. Prolonged inhalation may be harmful.
Skin contact	May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.
Symptoms	Headache. May cause drowsiness and dizziness. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

11.1. Information on toxicological effects

Acute toxicity	Based on available data, the classification criteria are not met.
Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	Causes serious eye irritation.
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	Based on available data, the classification criteria are not met.
Mixture versus substance information	No information available.
Other information	May cause allergic respiratory and skin reactions.

SECTION 12: Ecological information

12.1. Toxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.2. Persistence and degradability No data is available on the degradability of this product.

12.3. Bioaccumulative potential

Partition coefficient n-octanol /water (log Kow)

Propan-2-ol	0.05

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB assessment Not available. 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 The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

11 05 04

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Disposal methods/information Collect and reclaim or dispose in sealed containers at licensed waste disposal site. 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	UN1219
14.2. UN proper shipping name	ISOPROPANOL (ISOPROPYL ALCOHOL)
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Hazard No. (ADR)	33
Tunnel restriction code	D/E
14.4. Packing group	II
14.5. Environmental hazards	No
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	601
Classification code	F1

IATA

14.1. UN number	UN1219
14.2. UN proper shipping name	Isopropanol
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
14.4. Packing group	II
Packaging instructions	353
Packaging instructions cargo only	364

14.5. Environmental hazards	No.
ERG Code	3L
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	5 L
Maximum net quantity packaging cargo only	60 L
Maximum net quantity packaging - Limited quantity	1.00 L
Special provisions	A180

IMDG

14.1. UN number	UN1219
14.2. UN proper shipping name	ISOPROPANOL (ISOPROPYL ALCOHOL)
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
14.4. Packing group	II
14.5. Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-D
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	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 The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

EU Directive 96/82/EC - Control of Major Accident Hazards: Threshold quantities established for the application of Articles 6 and 7

Category: 7b

National regulations Follow national regulation for work with chemical agents.

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.
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.
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.
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).
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 statements or R-phrases and H-statements under Sections 2 to 15

R11 Highly flammable.
R36 Irritating to eyes.
R43 May cause sensitisation by skin contact.
R67 Vapours may cause drowsiness and dizziness.
H225 Highly flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

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.