Safety Data Sheet in accordance with Regulation (EC) No. 1907/2006, Annex II

SECTION 1: Name of the substance or mixture and the undertaking

1.1 Product Identifier

Nano-EcoLine Perma

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Discouraged Relevant Identified Uses of the Substance or Mixture:
Coating
Uses that are not recommended:
There is currently no information on this.

1.3 Details of the supplier providing the safety data sheet:
NanoEnzo B.V.
De Eenruiter 6
3833 SB Leusden - The Netherlands
Phone: +31 (0)85 007 9900
info@nanoenzo.nl
www.nanoenzo.nl

1.4 Emergency number:
Emergency Information Services / Public Advice Centre: 112

SECTION 2: Possible Hazards

2.1 Classification of the substance or mixture Classification

(REGULATION (EC) No 1272/2008)

Hazard Category	H-phrase	H-phrase description
Flammable liquids, category 2	H225	Highly flammable liquid and vapour.
Substances and mixtures that emit flammable gases in contact with water, category 3	H261	In contact with water, flammable gases are produced.
Acute toxicity, category 4	H302	Harmful if swallowed.
Etching effect on the skin, subcategory 1B	H314	Causes severe skin burns and severe eye damage.
Severe eye damage, category 1	H318	Causes serious eye damage.
Sensitization through skin contact, category 1	H317	May cause allergic skin reactions.
Specific target organ toxicity - single exposure, category 3, central nervous system	H336	May cause drowsiness and lightheadedness.
Long-term (chronic) water hazard, category 3	H412	Harmful to aquatic organisms, with long-term effects.

2.2 Marking elements

H412: Harmful to aquatic organisms, with long-term effects.

Marking (REGULATION (EC) No. 1272/2008)

Hazard pictograms :

Signal word : Danger

Warnings : H225 Highly flammable liquid and vapour.
H261 Flammable gases are produced in contact with water. H302 Harmful if swallowed.
H314 Causes severe skin burns and severe eye damage.
H317 May cause allergic skin reactions. H336 May cause drowsiness and drowsiness.
H412 Harmful to aquatic life, with long-term effects.

Safety : **Prevention:**

P210 Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. No smoking. P240 Ground the container and the system to be filled.
P273 Avoid release into the environment.
P280 Wear protective gloves / eye protection / face protection.

Reaction:

P302 + P352 IN CONTACT WITH SKIN: Wash with plenty of water.
P305 + P351 + P338 IN CASE OF CONTACT WITH EYES:
Rinse gently with water for a few minutes. Remove any contact lenses if possible. Continue to rinse.
P313 Seek medical advice/medical help.

Storage:

P403 + P233 Store in a well-ventilated place. Keep the container tightly closed.

Hazard-determining component(s) for labelling:

n-Butylacetat, Poly(methylhydrosilazane) (PMHS)

2.3 Other hazards

This substance/mixture does not contain any components in concentrations of 0.1% or higher that are classified as either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

Environmental claims: The substance/mixture does not contain any constituents that have endocrine disrupting properties in quantities of 0.1% or more in accordance with REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605.

Toxicological information: The substance/mixture does not contain any constituents that have endocrine-disrupting properties in quantities of 0.1% or more in accordance with REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605.

3.2 Mixtures

Chemical Characterization

SECTION 3: Composition/ingredient information

Ingredients : Mixture contains: Polysilazane solvent

Chemical name	CAS No. EC No. INDEX No. Registration number	Classification	Konzentration (% w/w)
n-Butylacetat	123-86-4 204-658-1 607-025-00-1 01-2119485493-29-xxxx	Flam. Liq. 3; H226 STOT SE 3; H336 (Zentralnervensys- tem) EUH066	>= 25 - < 50
Poly(methylhydrosilazane) (PMHS)	69430-49-9 614-000-0 INDEX No.:/ 01-2119980937-21-XXXX	Flam. Liq. 2; H225, Water-react. 3; H261, Acute Tox. 4; H302, Skin Corr. 1B; H314, Eye Dam. 1; H318, Aquatic Chronic 3; H412	>= 25 - < 50

The explanation of the abbreviations can be found in Section 16.

SECTION 4: First Aid Measures

4.1 Description of first aid measures

General information : First responder must protect himself.

After inhalation :Fresh air. Consult a doctor.

After skin contact : Remove all contaminated clothing immediately. Skin wash off with water/shower. Consult a doctor immediately.

After eye contact : Rinse with plenty of water. Consult an ophthalmologist immediately. Remove

contact lenses.

After swallowing : Drinking water (maximum 2 drinking glasses), vomiting (risk of perforation). Consult a doctor immediately. No attempts at neutralization.

4.2 Main acute and delayed symptoms and effects

Symptoms : Irritation and corrosiveness Allergic reactions Drowsiness Drowsiness Husten Atemnot

Risk of blindness!

Cough, headache, loss of appetite, stomach problems, anesthesia
The following applies to aliphatic amines in general: irritation after eye and skin contact. Irritation of the mucous membranes, cough and shortness of breath after inhalation

4.3 Indications of immediate medical assistance or special treatment

Treatment : No information available.

SECTION 5: Firefighting Measures

5.1 Extinguishing agent

Suitable extinguishing agents : Carbon dioxide (CO_2)
Dry Sand BC Powder

Unsuitable extinguishing agents :Water
Phosphate

5.2 Special hazards posed by the substance or mixture

Special dangers in firefighting : Flammable.

Vapors are heavier than air and spread above the ground.
Pay attention to backfire.
Explosive mixtures with air are possible even at normal temperatures.
In the event of a fire, the formation of dangerous fire gases or vapours is possible.
Should not come into contact with: Water
Caution! When in contact with water, the following is formed:

Hydrogen Ammonia

5.3 Instructions for firefighting

Special protective equipment for firefighting : Stay in the danger area only with self-contained breathing apparatus. Avoid skin contact by keeping a safe distance or wearing suitable protective clothing.

More information : Cool closed containers near the source of the fire with water spray.
Do not allow extinguishing water to get into the surface water or groundwater system.

Precipitate gases/vapours/mist with a water spray jet.

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and procedures to be used in emergencies

Personal precautions : Note for personnel not trained for emergencies: Do not inhale steam/aerosol.
Avoid substance contact.
Provide adequate ventilation.
Keep away from heat and ignition sources.
Clear the danger zone, proceed according to the emergency plan, call in experts.
Note for emergency services: Protective equipment: see section 8.

6.2 Environmental protection

Environmental protection : Prevent further leakage or spillage if this is possible without danger.

6.3 Methods and material for retention and purification

Cleaning : Seal the sewer system. Catching, and draining Pen.
Be aware of possible material restrictions! (Information in Section 7 and Section 10 respectively).
Absorb with liquid-binding material, e.g. Chemizorb®. Dispose of it. Cleaning.

6.4 Reference to other sections

For information on disposal, see Section 13. For personal protective equipment, see Section 8.

SECTION 7: Handling and Storage

7.1 Protective measures for safe handling

Notes on safe handling : Ensure sufficient air exchange and/or extraction in the work areas.
Do not inhale the substance/mixture.
Avoid the development of vapours/aerosols. Keep your workplace dry. Product must not come into contact with water.
Follow the instructions on the label.

Notes on fire and explosion protection : Keep away from open flames, hot surfaces and ignition sources. Take measures against electrostatic discharges.

Hygiene measures : Change contaminated clothing immediately. Preventive skin protection. Wash your hands and face after work.

7.2 Conditions for safe storage taking into account incompatibilities

Requirements for storage Rooms and containers : Store in the original container.

Further information on storage conditions : Tightly sealed. Keep away from heat and ignition sources. Dry.

Risks from decomposition products: see section 10.3

Learn more about shelf life : Follow the manufacturer's instructions for use.

Recommended storage temperature : If a suitable storage temperature range must be maintained for this product, the corresponding information must be found on the label attached to the product.

7.3 Specific End Applications

Specific use(s) : In addition to the uses mentioned in section 1.2, no other specific end-uses.

SECTION 8: Limitation and Monitoring of Exposure/Personal Protective Equipment

8.1 Parameters to be monitored Occupational

exposure limits

Ingredients	CAS No.	Value type (type of exposure)	Parameters to be monitored	Foundation
n-Butylacetat	123-86-4	AGW	62 ppm 300 mg/m3	DE TRGS 900
	Peak limit: Exceedance factor (category): 2; (I)			
	Further information: Committee for Hazardous Substances, A risk of fruit damage is necessary if the occupational exposure limit value and the biological hazard are complied with. limit value (BGW)			
		STEL	150 ppm 723 mg/m3	2019/1831/EU
	Further information: Indicative			
		TWA	50 ppm 241 mg/m3	2019/1831/EU
	Further information: Indicative			
		TWA	50 ppm	ACGIH
		STEL	150 ppm	ACGIH

Derived exposure level without impairment (DNEL) according to Regulation (EC) No. 1907/2006:

Mass noun	Scope of application	Expositionswe-ge	Possible damage to health	Value
n-Butylacetat	Employee	inhalation	Acute - local effects	960 mg/m3
	Employee	inhalation	Acute - systemic effects	960 mg/m3
	Employee	inhalation	Long-term - local Effects	480 mg/m3
	Employee	inhalation	Long-term systemic effects	480 mg/m3
	Consumer	inhalation	Acute - local effects	859.7 mg/m3
	Consumer	inhalation	Akut - systemic Effects	859.7 mg/m3
	Consumer	inhalation	Long-term - local Effects	102.34 mg/m3
	Consumer	inhalation	Long-term systemic effects	102.34 mg/m3

Estimated non-effect concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Mass noun	Umweltkompartment	Value
n-Butylacetat	Fresh water	0.18 mg/l
	Seawater	0.018 mg/l
	Periodic release into water	0.36 mg/l
	Süßwassersediment	0.981 mg/kg
	Meeressediment	0.0981 mg/kg
	Purification plant	35.6 mg/l
	Soil	0.0903 mg/kg

8.2 Limitation and monitoring of exposure Technical protective

measures

Technical measures and the use of appropriate working procedures take precedence over the use of personal protective equipment.
See Section 7.1.

Personal protective equipment

Body protective equipment must be selected in its design depending on the concentration and quantity of hazardous substances specific to the workplace and must meet the specifications of an EN/ISO/DIN standard. The chemical resistance of the protective agents should be clarified with their suppliers.

Eye protection : Tight-fitting safety goggles

Guard :

Spray contact

Glove material : Butyl Rubber Glove Thickness

: 0.7 mm breakthrough time 60min

The protective gloves to be used must comply with the

specifications of EC Directive 89/686/EEC and the resulting

EN374 standard, for example:KCL 898 Butoject® (spray contact)

This recommendation only applies to the product specified in the safety data sheet that is supplied by us and the intended use specified by us. When dissolving in or mixing with other substances and in the event of conditions deviating from EN374, you must contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Germany, Internet: www.kcl.de).

Respiratory : required in the event of the presence of vapours/aerosols. Filter : Abek-filter
Protective measures A: Flame retardant anti-static protective clothing.

Limiting and monitoring environmental exposure

Water : Prevent contact with soil, surface or groundwater.
Prevent spread over large areas (e.g. by containment or oil barriers).
Explosionsrisiko.

SECTION 9: Physical and Chemical Properties

Physikalische und Chemische Eigenschaften (SECTION 9.1):

Physical State	Solution, colorless
Odor	No data available
Freezing Point	No data available
Boiling Point	No data available (Component: n-Butyl acetate, 126 °C at 1.013 hPa, Method: OECD Test Guideline 103)
Flammability	Flammable
Flash Point	-
Ignition Temperature	No data available
Decomposition Temperature	No data available
pH	Substance reacts with water
Viscosity	No data available
Solubility in Water	Reacts
Partition Coefficient n-Octanol/Water	No data available
Vapor Pressure	11.2 hPa (20 °C), Method: Regulation (EC) No. 440/2008, Annex A.4
Density	No data available
Relative Vapor Density	No data available

Other Information (SECTION 9.2):

Explosiveness: Not classified as explosive.
Oxidizing Properties: None.

SECTION 10: Stability and Reactivity

10.1 Reactivity

Vapours can form an explosive mixture with air.

10.2 Chemical stability

Sensitive to moisture Formation of overpressure

10.3 Possibility of dangerous reactions

Dangerous reactions

Risk of explosion with: For alkali metal Strong oxidizing agents

Risk of ignition or formation of flammable gases or Vapors with: Amines Alcohols Water Potassium-tert-butylate Alkalihydroxide

Development of hazardous gases or vapours with:Alkalis

Violent reactions possible with: Acids and bases Oxidizing agents Strong alkalis

10.4 Conditions to avoid

Conditions to avoid: Humidity. Warming.

10.5 Incompatible materials

Substances to avoid: Water

10.6 Dangerous decomposition products

in case of fire: see section 5.

SECTION 11: Toxicological information

11.1 Information on hazard classes within the meaning of Regulation (EC) No. 1272/2008 Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: 1,317 mg/kg
Method: Calculation Method

Symptoms: If swallowed, strong corrosive effect of the mouth and throat as well as risk of perforation of the breathing tube and stomach.

Acute inhaled toxicity : Acute toxicity estimate: > 20 mg/l
Exposure time: 4 h Test atmosphere: Steam
Method: Calculation method

Symptoms: Irritation of the mucous membranes, coughing, shortness of breath, possible consequences:, damage to the respiratory tract

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation Method

Symptoms: Causes severe chemical burns.

Acute toxicity (other routes of administration) No data available

Ingredients:

n-Butylacetat:

Acute oral toxicity : LD50 (Rat, female): 10,760 mg/kg
Method: OECD Test Guideline 423 Notes: (Third-Party Safety Data Sheet)

Symptoms: Risk of aspiration in case of vomiting., Aspiration can lead to pulmonary edema and pneumonia.

Acute inhaled toxicity : LC50 (rat, male and female): 0.74 mg/l
Exposure time: 4 h Test atmosphere: aerosol
Method: OECD test guideline 403 GLP: yes
Notes: (ECHA)

Acute dermal toxicity : LD50 (rabbits, male and female): > 14,100 mg/kg
Method: OECD Test Guideline 402 Notes: (Third-Party Safety Data Sheet)

Poly(methylhydrosilazane) (PMHS)

Acute oral toxicity : LD50 (Ratte): > 300 - 2.000 mg/kg
Method: OECD Test Guideline 423 Notes: Observation period: 14 days

Acute inhaled toxicity : Evaluation: Toxic effects cannot be ruled out will be

Acute dermal toxicity : Evaluation: Toxic effects cannot be ruled out will be

Corrosive/irritating effect on the skin Product:

No data available

Ingredients:

n-Butylacetat:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No irritation
Notes : (ECHA)

Result : Repeated contact can lead to brittle or cracked skin. (ECHA)
Notes :

Poly(methylhydrosilazane) (PMHS):

Species :Rabbit
Exposure time : 1 h
Method : OECD Test Guideline 404
Result : Causes chemical burns.

Severe eye damage/irritation

Product:

Notes : Risk of blindness!

Ingredients:

n-Butylacetat:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	No eye irritation
GLP	:	yes
Notes	:	(ECHA)

Poly(methylhydrosilazane) (PMHS):

Result : Irreversible damage to the eyes

Sensitization of the respiratory tract/skin

Product:

No data available

Ingredients:

n-Butylacetat:

Art of the Testes	:	Maximization Test
Expositionswege	:	Skin contact
Species	:	Mouse
Result	:	Does not cause sensitization in laboratory animals.
Notes	:	(ECHA)

Germ Cell Mutagenicity Product:

Genotoxicity in vitro : No data available Genotoxicity in vivo :
No data available

Ingredients:

n-Butylacetat:

Genotoxicity in vitro : Art des Testes: Ames test
Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activity
Method: OECD Test Guideline 471 Result: negative
Notes: (third-party safety data sheet)

Type of test: Mutagenicity (mammalian cell test): Chromosomal aberration.
Metabolic activation: without metabolic activation Method: OECD Test Guideline 473
Result: negative Comments: (ECHA)

Poly(methylhydrosilazane) (PMHS):

Genotoxicity in vitro : Art des Testes: Ames test
Testsystem: Escherichia coli
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471 Result: negative

Carcinogenicity Product:

No data available

Reproductive toxicity

Product:

Effect on fertility : No data available
Effects on fetal development No data available

Specific target organ toxicity with single exposure

Product:

No data available

Ingredients:

n-Butylacetat:

Target organs :Central nervous system
Assessment : May cause drowsiness and drowsiness.
Notes : (ECHA)

Specific Target Organ Toxicity in Repeated Exposure Product:

No data available

Repeated dose toxicity

Product:

No data available

Aspiration Toxicity

Product:

No data available

11.2 Information on other hazards

Endocrine Disrupting Properties Product:

Assessment : The substance/mixture does not contain any constituents that have endocrine-disrupting properties in quantities of 0.1% or more in accordance with REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605.

More information about the

product:

Notes : Expected properties due to the main component of the mixture:

Notes : cough headache loss of appetite

SECTION 12: Environmental Claims

12.1 Toxicity

Product:

No data available

Ingredients:

n-Butylacetat:

Toxicity to fish : LC50 (Pimephales promelas (fat-headed minnow)): 18 mg/l Exposure time: 96 h
Type of test: Flow test Accompanying analysis: yes
Method: OECD Test Guideline 203 Notes: (Third-Party Safety Data Sheet)

Toxicity to Daphnia and other non-irritating aquatic animals

Toxicity to algae/aquatic plants

Toxicity in microorganisms

Ecotoxicity assessment

Chronic aquatic toxicity

: EC50 (Daphnia magna (Large Water Flea)): 44 mg/l Exposure time: 48 h
Type of test: static test Notes: (ECHA)

: ErC50 (Desmodesmus subspicatus (green algae)): 674.7 mg/l Exposure time: 72 h
Type of test: static test Notes: (ECHA)

: EC50 (Pseudomonas putida): 959 mg/l Expositionszeit: 18 h
Notes: (IUCLID)

: There are no known ecotoxicological effects from this product.

Poly(methylhydrosilazane) (PMHS):

Toxicity to fish : LC50 (Danio rerio (zebrafish)): 57.1 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

12.2 Persistence and degradability

Product:

No data available

Ingredients:

n-Butylacetat:

Biodegradability : Art of the Testes: aerob
Result: Easily biodegradable. Biodegradation: 83 %
Exposure time: 28 d
Method: OECD Test Guideline 301D Notes: (ECHA)

ThOD : 2,207 mg/g
Notes: (Lit.)

BOD/ThOD : 7 - 46 % Notes: (Lit.)

12.3 Bioaccumulation potential

Product:

No data available

Ingredients:

n-Butylacetat:

Distribution coefficient: n-octanol/water : log Pow: 2.3 (25 °C)
Method: OECD Test Guideline 107 GLP: yes
Notes: Bioaccumulation is not to be expected.

:

12.4 Mobility in the ground

No data available

12.5 PBT and vPvB assessment results

Product:

Assessment : This substance/mixture does not contain any components in concentrations of 0.1 % or higher that are classified as either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

Ingredients:

n-Butylacetat:

Assessment : The substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII.

12.6 Endocrine-disrupting properties

Product:

Assessment : The substance/mixture does not contain any constituents that have endocrine-disrupting properties in quantities of 0.1% or more in accordance with REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605.

12.7 Other harmful effects

Product:

Other ecological references : Entry into the environment must be avoided.

SECTION 13: Disposal Instructions

13.1 Waste treatment processes

Product : Product residues must be disposed of in compliance with national and regional regulations.

Leave chemicals in original containers. Do not mix with other waste. Uncleaned containers must be treated according to the product.

Find out more about take-back systems for chemicals and packaging under www.Retrologistik.de or use the address to contact us if you have any questions.

Waste Directive 2008/98/EC.

Waste should not be disposed of via wastewater.

SECTION 14: Transportation Information

Lufttransport (IATA)

14.1. UN/ID No. : UN 3129
14.2. Proper UN shipping designation : Water-reactive liquid, corrosive, n.o.s. (Organic polysilazane compound)
14.3. Grade : 4.3 (8)
14.4. Packaging Group :II
14.5 Hazardous to the environment : --
14.6 Special precautions for the user :yes

IATA (Passagier) **Transport not permitted**

Seeschiffstransport (IMDG)

14.1. UN Number : UN 3129
14.2. Proper UN shipping designation : WATER-REACTIVE LIQUID, CORROSIVE, N.O.S. (Organic polysilazane compound)
14.3. Grade : 4.3 (8)
14.4. Packaging Group :II
14.5 Hazardous to the environment : --
14.6 Special precautions for the user :yes

EmS Code : F-G, S-N

14.7 Bulk cargo transport in accordance with Annex II to the MARPOL Convention 73/78 and the IBC Code
Not relevant

Land transport (ADR/RID)

14.1. UN Number : UN 3129
14.2. Proper UN shipping designation : LIQUID REACTING WITH WATER, CORROSIVE, N.E.S. (organic polysilazane compound)

14.3. Grade : 4.3 (8)
14.4. Packaging Group :II
14.5 Hazardous to the environment : --
14.6 Special Advantages :yes

Information measures for the user
Tunnel Restriction Code : (D/E)

Interior Schiffstransport (ADN)
ADN Rating : Unassigned

The transport classification(s) provided herein is/are for informational purposes only and are based solely on the characteristics of the unpackaged material as described
in this safety data sheet. Transport classifications may vary with the means of transport, the packaging size and deviations in regional or country regulations.

SECTION 15: Legislation

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	: The restriction conditions for the following entries should be taken into account: Number in the list 3 Benzene (number in the list 72, 5, 29, 28)
	: Not applicable
REACH - List of substances of very high concern eligible for authorisation (Article 59).	: Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	: Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	
REACH - List of substances subject to authorisation (Annex XIV)	: Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	P5c	FLAMMABLE FLUIDS

Water hazard class : WGK 3 highly water-polluting storage class (TRGS

510) : 4.3

BG-Chemie leaflet : Irritants/Corrosive substances

Occupational health and safety measures for activities involving hazardous substances

Other provisions:

Observe employment restrictions in accordance with the Youth Employment Protection Regulations (94/33/EC).

15.2 Chemical safety assessment

No chemical safety assessment has been carried out for this product.

SECTION 16: Other Disclosures

Full text of the H-phrases

H225	:	Highly flammable liquid and vapour.
H226	:	Flammable liquid and vapour.
H261	:	In contact with water, flammable gases are produced.
H302	:	Harmful if swallowed.
H312	:	Harmful to health in contact with skin.
H314	:	Causes severe skin burns and severe genetic damage.
H317	:	May cause allergic skin reactions.
H318	:	Causes serious eye damage.
H332	:	Harmful if inhaled.
H336	:	May cause drowsiness and lightheadedness.
H412	:	Harmful to aquatic organisms, with long-term effects.
EUH066	:	Repeated contact can lead to brittle or cracked skin. ren.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Chronic	:	Long-term (chronic) water hazard
Eye Dam.	:	Severe eye damage
Flam. Liq.	:	Flammable liquids
Skin Corr.	:	Corrosive effect on the skin
Skin Sens.	:	Sensitization through skin contact
STOT SE	:	Specific target organ toxicity - single exposure
Water-react.	:	Substances and mixtures which can be ignited in contact with water develop gases
2000/39/EC	:	Commission Directive 2000/39/EC laying down a first list of indicative occupational exposure limits
2019/1831/EU	:	Europe. Commission Directive 2019/1831/EU on the determination of a fifth list of indicative occupational exposure limit values
ACGIH	:	United States. Maximum workplace concentration values (TLV) of the ACGIH
DE TRGS 900	:	Germany. TRGS 900 - Occupational Exposure Limits
TRGS 903	:	TRGS 903 - Biological Limits
2000/39/EC / TWA	:	Limits - 8 hours
2000/39/EC / STEL	:	Short-term limit values
2019/1831/EU / TWA	:	Limits - 8 hours
2019/1831/EU / STEL	:	Short-term limit values
ACGIH / TWA	:	8 hours, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
DE TRGS 900 / AGW	:	Occupational exposure limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Convention concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for Materials Testing; bw - body weight; CLP - Regulation on the classification, labelling and packaging of substances, Regulation (EC) No 1272/2008; CMR -

Carcinogenic, mutagenic or reproductive toxin; DIN standard of the German Institute for Standardization; DSL - List of Domestic Substances (Canada); ECHA - European Chemicals Agency; EC-Number - number of the European Community; ECx concentration associated with x% reaction; ELx - Loading rate associated with x% reaction; EmS - Emergency plan; ENCS - Existing and new chemical substances (Japan); ErCx - concentration associated with x% growth rate; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships for the Transport of Hazardous Chemicals in Bulk; IC50 - Semi-maximum inhibitor concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Chemical Substances Present in China; IMDG Code – International Code for the Carriage of Dangerous Goods by Seagoing Vessels; IMO - International Maritime Organization; ISHL - Occupational Safety and Health Act (Japan); ISO - International Organization for Standardization; KECI - Inventory of Chemicals Present in Korea; LC50 - Lethale Concentration for 50
% of an experimental population; LD50 - Lethal dose for 50% of an experimental population (mean lethal dose); MARPOL - International Convention for the Prevention of Pollution from Ships at Sea; N.O.S. - not otherwise stated; NO(A)EC - concentration at which no (harmful) effect is recognizable; NO(A)EL - Dose at which no (harmful) effect is recognizable; NOELR - No discernible effect charge; NZIoC - New Zealand Chemical Directory; OECD - Organisation for Economic Co-operation and Development; OPPTS - Bureau of Chemical Safety and Pollution Prevention (OSCPP); PBT - Persistent, bioaccumulative and toxic substances; PICCS - Inventory of Chemicals and Chemical Substances Present in the Philippines; (Q)SAR - (quantitative) structure-effect relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals; RID - Regulation on the International Carriage of Dangerous Goods by Rail; SADT - Self-accelerating decomposition temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - List of Chemical Substances Present in Taiwan; TECI - Thailand Stock of Existing Chemicals; TRGS - Technical Regulations for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very persistent and very bioaccumulative

More information

Decimal notation: Thousands digits are marked with a dot (example: 2,000 mg/kg means "two thousand mg/kg"). Decimal places are marked with a comma (example: 1.35 g/cm3).

Classification of the mixture:		**Placement procedure:**
Flam. Liq. 2	H225	Based on product data or assessment
Water-react. 3	H261	Calculation method
Acute Tox. 4	H302	Calculation method
Skin Corr. 1B	H314	Calculation method
Eye Dam. 1	H318	Calculation method
Skin Sens. 1	H317	Calculation method
STOT SE 3	H336	Calculation method
Aquatic Chronic 3	H412	Calculation method

Disclaimer

The information is based on the current state of our knowledge and serves to describe the product with regard to the safety precautions to be taken. They do not constitute an assurance of the characteristics of the product described. This safety data sheet contains only safety-relevant information and does not replace product information or product specification.

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All information provided is based on a test product. These details are subject to change at any time and are provided without warranty.