

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)



Trade name : PERMA-GUARD HÄRTER
Revision date : 20.05.2014
Date of print : 20-11-2014

Version (Revision) : 2.0.0 (1.0.0)

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

1.1 Product identifier

PERMA-GUARD HÄRTER

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

Paint/paint-related material for industrial/professional use.

1.3 Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor)

Guard KG

Street : Berta-Cramer-Ring 26

Postal code/city : D- 65205 Wiesbaden

Telephone : +49 6122 70463-16

Telefax : +49 6122 70463-29

Information contact : info@graffiti-guard.net

1.4 Emergency telephone number

Assistance in German: Telephone: + 49 (0) 6122 7046316 (Office hours: Monday-Friday 9:00 to 15:00). Outside office hours: call a Poison Center or doctor/physician.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Aquatic Chronic 3 ; H412 - Hazardous to the aquatic environment : Category 3 ; Harmful to aquatic life with long lasting effects.

Acute Tox. 4 ; H332 - Acute toxicity (inhalative) : Category 4 ; Harmful if inhaled.

Skin Sens. 1 ; H317 - Skin sensitisation : Category 1 ; May cause an allergic skin reaction.

STOT SE 3 ; H335 - Specific target organ toxicity (single exposure) : Category 3 ; May cause respiratory irritation.

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms



Exclamation mark (GHS07)

Signal word

Warning

Hazard components for labelling

POLYISOCYANAAT, ALIPHATISCH ; CAS No. : 160994-68-3

Hazard statements

H332 Harmful if inhaled.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

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

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P271 Use only outdoors or in a well-ventilated area.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P321 Specific treatment (see instructions on this label).
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Disposal of contents/container in accordance with local, state or national legislation.

Special rules for supplemental label elements for certain mixtures

EUH204 Contains isocyanates. May produce an allergic reaction.
EUH208 Contains HEXAMETHYLENE-DI-ISOCYANATE. May produce an allergic reaction.

2.3 Other hazards

None

SECTION 3: Composition/ information on ingredients

3.2 Mixtures

Hazardous ingredients

POLYISOCYANAAT, ALIPHATISCH ; CAS No. : 160994-68-3

Weight fraction : 50 - 100 %
Classification 67/548/EEC : R43 R52/53 Xn ; R20 Xi ; R37
Classification 1272/2008 [CLP] : Acute Tox. 4 ; H332 Skin Sens. 1 ; H317 STOT SE 3 ; H335 Aquatic Chronic 3 ; H412

HYDROCARBONS, C9, AROMATICS ; REACH registration No. : 01-2119455851-35 ; EC No : 918-668-5

Weight fraction : < 2,5 %
Classification 67/548/EEC : R10 N ; R51/53 Xn ; R65 Xi ; R37 R67 R66
Classification 1272/2008 [CLP] : Flam. Liq. 3 ; H226 Asp. Tox. 1 ; H304 STOT SE 3 ; H335 STOT SE 3 ; H336
Aquatic Chronic 2 ; H411

HEXAMETHYLENE-DI-ISOCYANATE ; REACH registration No. : 01-2119457571-37 ; EC No : 212-485-8 ; CAS No. : 822-06-0

Weight fraction : < 1 %
Classification 67/548/EEC : T ; R23 R42/43 Xi ; R36/37/38
Classification 1272/2008 [CLP] : Acute Tox. 2 ; H330 Resp. Sens. 1 ; H334 Skin Irrit. 2 ; H315 Skin Sens. 1 ; H317
Eye Irrit. 2 ; H319 STOT SE 3 ; H335

Additional information

Full text of R-, H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

When in doubt or if symptoms are observed, get medical advice. Never give anything by mouth to an unconscious person or a person with cramps.

After inhalation

Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice.

In case of skin contact

Change contaminated, saturated clothing. After contact with skin, wash immediately with plenty of water and soap. Clean with detergents. Avoid solvent cleaners.

After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate

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medical attention. Keep at rest. Do not induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Alcohol resistant foam. Carbon dioxide (CO₂). Extinguishing powder. Water mist

Unsuitable extinguishing media

Strong water jet.

5.2 Special hazards arising from the substance or mixture

Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

5.3 Advice for firefighters

Special protective equipment for firefighters

Cool endangered containers with water in case of fire. Do not allow run-off from fire-fighting to enter drains or water courses. Use suitable breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Protective equipment

Use personal protection equipment. Provide adequate ventilation. Remove all sources of ignition.

6.2 Environmental precautions

Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3 Methods and material for containment and cleaning up

Prevent spread over a wide area (e.g. by containment or oil barriers). Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Clean with detergents. Avoid solvent cleaners. The contaminated area should be cleaned up immediately with: a mixture of 45% water, 50% ethanol or isopropyl alcohol, 5% concentrated ammonia solution (density 0.880) a mixture of 95% water and 5% sodium carbonate. Add the decontaminant to the remnants and let stand for several days in a non-sealed container until no further reaction is observed. Once reaction is finished, close container and dispose of.

6.4 Reference to other sections

Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used. Examination of lung function should be carried out on a regular basis on persons spraying this product.

7.1 Precautions for safe handling

Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode. Provide earthing of containers, equipment, pumps and ventilation facilities. No sparking tools should be used. Avoid contact with skin and eyes. Inhalation of dust/particles. When using do not eat, drink, smoke, sniff. Comply with the health and safety at work laws. Prevent the creation of inflammable or explosive concentrations of vapour in air and avoid vapour

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concentrations higher than the OEL (=Occupational Exposure Limit). Additionally, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Preparation may charge electrostatically: always use earthing leads when transferring from one container to another. P241 - Use explosion-proof electrical equipment.

Protective measures

Take care when re-opening already used containers. Keep the packing dry and well sealed to prevent contamination and absorption of humidity. In contact with water (moisture) CO₂ is formed which leads to an excess pressure in closed containers. Keep container tightly closed in a cool, well-ventilated place. Operators should wear antistatic footwear and clothing. No sparking tools should be used. Never use pressure to empty container. Always keep in containers of same material as the original one. See also instructions on the label. Avoid heating and direct sunlight.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Never use pressure to empty: container is not a pressure vessel. No smoking. Prevent unauthorized access.

Requirements for storage rooms and vessels

Keep away from oxidizing agents, from strongly alkaline and strongly acid materials.

Further information on storage conditions

Always keep in containers of same material as the original one. See also instructions on the label. Avoid heating and direct sunlight. Only use containers specifically approved for the substance/product.

7.3 Specific end use(s)

None

SECTION 8: Exposure controls/personal protection

Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used. Examination of lung function should be carried out on a regular basis on persons spraying this product.

8.1 Control parameters

DNEL/DMEL and PNEC values

DNEL/DMEL

Limit value type:	DNEL/DMEL (DNEL Consumer, Systemic) (DIPROPYLENGLYKOLDIMETHYLETHER; CAS No.: 111109-77-4)
Exposure route:	Dermal
Limit value:	5,26 mg/kg
Limit value type:	DNEL/DMEL (DNEL Consumer, Systemic) (DIPROPYLENGLYKOLDIMETHYLETHER; CAS No.: 111109-77-4)
Exposure route:	Inhalation
Limit value:	15,79 mg/m ³
Limit value type:	DNEL/DMEL (DNEL Consumer, Systemic) (DIPROPYLENGLYKOLDIMETHYLETHER; CAS No.: 111109-77-4)
Exposure route:	Oral
Limit value:	1,67 mg/kg
Limit value type:	DNEL/DMEL (Worker, Systemic) (DIPROPYLENGLYKOLDIMETHYLETHER; CAS No.: 111109-77-4)
Exposure route:	Dermal
Exposure frequency:	Long-term (repeated)
Limit value:	22,1 mg/kg
Limit value type:	DNEL/DMEL (Worker, Systemic) (DIPROPYLENGLYKOLDIMETHYLETHER; CAS No.: 111109-77-4)
Exposure route:	Inhalation
Exposure frequency:	Long-term (repeated)
Limit value:	133 mg/m ³
Limit value type:	DNEL/DMEL (DNEL Consumer, Systemic) (HYDROCARBONS, C9, AROMATICS)
Exposure route:	Dermal

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Exposure frequency : Long-term (repeated)
Limit value : 11 mg/kg
Limit value type : DNEL/DMEL (DNEL Consumer, Systemic) (HYDROCARBONS, C9, AROMATICS)
Exposure route : Inhalation
Exposure frequency : Long-term (repeated)
Limit value : 32 mg/m³
Limit value type : DNEL/DMEL (DNEL Consumer, Systemic) (HYDROCARBONS, C9, AROMATICS)
Exposure route : Oral
Exposure frequency : Long-term (repeated)
Limit value : 11 mg/kg
Limit value type : DNEL/DMEL (Worker, Systemic) (HYDROCARBONS, C9, AROMATICS)
Exposure route : Dermal
Exposure frequency : Long-term (repeated)
Limit value : 25 mg/kg
Limit value type : DNEL/DMEL (Worker, Systemic) (HYDROCARBONS, C9, AROMATICS)
Exposure route : Inhalation
Exposure frequency : Long-term (repeated)
Limit value : 150 mg/m³
Limit value type : DNEL/DMEL (Worker, Local) (HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0)
Exposure route : Inhalation
Exposure frequency : Long-term (repeated)
Limit value : 0,035 mg/m³
Limit value type : DNEL/DMEL (Worker, Local) (HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0)
Exposure route : Inhalation
Exposure frequency : Short-term (acute)
Limit value : 0,07 mg/m³
Limit value type : DNEL/DMEL (Worker, Systemic) (HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0)
Exposure route : Inhalation
Exposure frequency : Long-term (repeated)
Limit value : 0,035 mg/m³
Limit value type : DNEL/DMEL (Worker, Systemic) (HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0)
Exposure route : Inhalation
Exposure frequency : Short-term (acute)
Limit value : 0,07 mg/m³

PNEC

Limit value type : PNEC aquatic, freshwater (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Exposure route : Water (Including sewage plant)
Exposure time : Long-term (continuous)
Limit value : 1 mg/l
Limit value type : PNEC aquatic, intermittent release (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Exposure route : Water (Including sewage plant)
Exposure time : Short-term (single)
Limit value : 10 mg/l
Limit value type : PNEC aquatic, marine water (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Exposure route : Water (Including sewage plant)
Exposure time : Long-term (continuous)
Limit value : 0,1 mg/l
Limit value type : PNEC sediment, freshwater (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)

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Exposure route :	Water (Including sewage plant)
Exposure time :	Long-term (continuous)
Limit value :	1,16 mg/kg
Limit value type :	PNEC soil, freshwater (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Exposure route :	Soil
Limit value :	0,1 mg/kg
Limit value type :	PNEC sewage treatment plant (STP) (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Exposure route :	Water (Including sewage plant)
Limit value :	10 mg/l
Limit value type :	PNEC aquatic, freshwater (HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0)
Limit value :	0,0744 mg/l
Safety factor :	1000
Limit value type :	PNEC aquatic, intermittent release (HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0)
Limit value :	0,774 mg/l
Safety factor :	100
Limit value type :	PNEC aquatic, marine water (HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0)
Limit value :	0,00774 mg/l
Limit value type :	PNEC sediment, freshwater (HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0)
Limit value :	0,01334 mg/kg
Limit value type :	PNEC sediment, marine water (HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0)
Limit value :	0,00134 mg/kg
Limit value type :	PNEC soil, freshwater (HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0)
Limit value :	0,0026 mg/kg
Limit value type :	PNEC sewage treatment plant (STP) (HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0)
Limit value :	8,42 mg/l
Safety factor :	100

8.2 Exposure controls

Appropriate engineering controls

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Personal protection equipment

Eye / face protection

Eye glasses with side protection.

Skin protection

Wear suitable working clothes.

Hand protection

Solvent-resistant protective gloves must be worn. Wear suitable gloves tested to EN374. Breakthrough time (maximum wearing time).

Suitable gloves type : Disposable gloves.

Suitable material : NR (natural rubber, natural latex)

Required properties : liquid-tight.

Breakthrough time (maximum wearing time) : > 60 min

Thickness of the glove material : > 0,5 mm

Recommended glove articles : DIN EN 374

Body protection

Suitable protective clothing : Overall.

Recommended material : Natural fibres (e.g. cotton).

Respiratory protection

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Full-face mask or mouthpiece with particulate filter: maximum use concentration for substances with exposure limits:
P1 filter: up to a max. of 4 times the exposure limit. P2 filter: up to a max. of 15 times the exposure limit. P3 filter:
up to a max. of

8.3 Additional information

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL (=Occupational Exposure Limit), suitable respiratory protection must be worn.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

Safety relevant basis data

Physical state :		liquid	
Melting point / melting range :	(101300 Pa)	No data available	
Boiling temperature / boiling range :	(101300 Pa)	No data available	
Decomposition temperature :		No data available	
Decomposition temperature :	(101300 Pa)	No data available	
Flash point :		65	°C
Ignition temperature :		No data available	
Lower explosion limit :		No data available	
Upper explosion limit :		No data available	
Relative density :	(20 °C)	1,11	(Water = 1)
Solvent separation test :	(20 °C)	No data available	
Water solubility :	(20 °C)	No data available	
PH value :		No data available	
log P O/W :		No data available	
Odour threshold :		No data available	
Evaporation rate :		No data available	
Vapourisation rate :		No data available	
Odour :		Pungent characteristics.	
Solid content :		84,9	Wt %
Viscosity :	(20 °C)	No data available	NEN-ISO 2884
Oxidising liquids :		No data available.	
Explosive properties:		No data available.	

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

No information available.

10.2 Chemical stability

No information available.

10.3 Possibility of hazardous reactions

No information available.

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials

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Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.6 Hazardous decomposition products

When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity

Parameter :	LD50 (POLYISOCYANAAT, ALIPHATISCH ; CAS No. : 160994-68-3)
Exposure route :	Oral
Species :	Rat
Effective dose :	> 2000 mg/kg
Parameter :	LD50 (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Exposure route :	Oral
Species :	Rat
Effective dose :	3300 mg/kg
Parameter :	LD50 (HYDROCARBONS, C9, AROMATICS)
Exposure route :	Oral
Species :	Rat
Effective dose :	3592 mg/kg
Methode :	OECD 401
Parameter :	LD50 (HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0)
Exposure route :	Oral
Species :	Rat
Effective dose :	710 mg/kg
Parameter :	LD50 (DIBUTYLTIN DILAURATE ; CAS No. : 77-58-7)
Exposure route :	Oral
Species :	Rat
Effective dose :	175 mg/kg

Acute dermal toxicity

Parameter :	LD50 (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Exposure route :	Dermal
Species :	Rat
Effective dose :	> 2000 mg/kg
Parameter :	LD50 (HYDROCARBONS, C9, AROMATICS)
Exposure route :	Dermal
Species :	Rabbit
Effective dose :	> 3160 mg/kg
Methode :	OECD 402
Parameter :	LD50 (HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0)
Exposure route :	Dermal
Species :	Rabbit
Effective dose :	570 mg/kg

Acute inhalation toxicity

Parameter :	LC50 (POLYISOCYANAAT, ALIPHATISCH ; CAS No. : 160994-68-3)
Exposure route :	Inhalation
Species :	Female
Effective dose :	0,39 mg/l
Exposure time :	4 h
Methode :	OECD 403

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Parameter : LC50 (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Exposure route : Inhalation
Species : Rat
Effective dose : > 5,25 mg/l
Exposure time : 4 h
Parameter : LC50 (HYDROCARBONS, C9, AROMATICS)
Exposure route : Inhalation
Species : Rat
Effective dose : > 6193 mg/m³
Exposure time : 4 h
Methode : OECD 403
Parameter : LC50 (HEXAMETHYLENE-DI-ISOCYANATE ; CAS No. : 822-06-0)
Exposure route : Inhalation
Species : Mouse
Effective dose : 1570 mg/m³

Sensitisation

Based on the properties of the isocyanate components and considering toxicological data on similar preparations, this preparation may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and a tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL (=Occupational Exposure Limit). Repeated exposure may lead to permanent respiratory disability.

11.4 Additional information

Contains one or more sensitising substance(s). May produce an allergic reaction.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

Acute (short-term) fish toxicity

Parameter : LC50 (POLYISOCYANAT, ALIPHATISCH ; CAS No. : 160994-68-3)
Species : Brachydanio rerio (zebra-fish)
Evaluation parameter : Acute (short-term) fish toxicity
Effective dose : 28,3 mg/l
Exposure time : 96 h
Methode : OECD 203

Chronic (long-term) fish toxicity

Parameter : NOEC (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Species : Oncorhynchus mykiss (Rainbow trout)
Evaluation parameter : Chronic (long-term) fish toxicity
Effective dose : > 300 mg/l
Exposure time : 14 h

Parameter : NOEC (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Species : Chronic (long-term) daphnia toxicity
Evaluation parameter : Chronic (long-term) daphnia toxicity
Effective dose : 10 mg/l
Exposure time : 500 h

Parameter : LOEC (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Species : Chronic (long-term) daphnia toxicity
Evaluation parameter : Chronic (long-term) daphnia toxicity
Effective dose : 32 mg/l
Exposure time : 500 h

Acute (short-term) daphnia toxicity

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Parameter : EC50 (DIBUTYLTIN DILAURATE ; CAS No. : 77-58-7)
Species : Daphnia pulex (water flea)
Evaluation parameter : Acute (short-term) daphnia toxicity
Effective dose : 0,66 mg/l
Exposure time : 48 h
Methode : Acute (short-term) daphnia toxicity

Acute (short-term) algae toxicity

Parameter : ErC50 (POLYISOCYANAAT, ALIPHATISCH ; CAS No. : 160994-68-3)
Species : Scenedesmus subspicatus
Evaluation parameter : Acute (short-term) algae toxicity
Effective dose : > 100 mg/l
Exposure time : 72 h
Methode : OECD 201

Parameter : EC50 (POLYISOCYANAAT, ALIPHATISCH ; CAS No. : 160994-68-3)
Species : Daphnia magna (Big water flea)
Evaluation parameter : Acute (short-term) daphnia toxicity
Effective dose : > 100 mg/l
Exposure time : 48 h
Methode : OECD 202

Bacteria toxicity

Parameter : EC50 (POLYISOCYANAAT, ALIPHATISCH ; CAS No. : 160994-68-3)
Species : Bacteria toxicity
Evaluation parameter : Bacteria toxicity
Effective dose : > 10000 mg/l

Plant toxicity

Acute plant toxicity

Parameter : LC50 (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Species : Chronical earthworm toxicity (reproduction)
Evaluation parameter : Chronical earthworm toxicity (reproduction)
Effective dose : > 1000 mg/kg

12.2 Persistence and degradability

Biodegradation

Analytical method : Biodegradation (POLYISOCYANAAT, ALIPHATISCH ; CAS No. : 160994-68-3)
Parameter : Biodegradation
Type : Biodegradation
Degradation rate : 2 %
Time : 672 h
Evaluation : Not readily biodegradable (according to OECD criteria).
Methode : OECD 301F / ISO 9408 / EEC 92/69/V, C.4-D

12.3 Bioaccumulative potential

Parameter : Bioconcentration factor (BCF) (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Species : Bioconcentration factor (BCF)
Bioconcentration factor (BCF)
Result : < 100
Parameter : Bioconcentration factor (BCF) (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Species : Partition coefficient n-octanol /water (log P O/W)
Partition coefficient n-octanol /water (log P O/W)
Result : < 3
Parameter : Bioconcentration factor (BCF) (DIPROPYLENGLYKOLDIMETHYLETHER ; CAS No. : 111109-77-4)
Species : Oncorhynchus mykiss (Rainbow trout)

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Result : Bioconcentration factor (BCF)
4
Parameter : Partition coefficient n-octanol/water (log P O/W) (DIPROPYLENGLYKOLDIMETHYLETHER
: CAS No. : 111109-77-4)
Species : Partition coefficient n-octanol/water (log P O/W)
Partition coefficient n-octanol/water (log P O/W)
Result : 0,42

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

No information available.

12.7 Further ecological information

The preparation has been assessed following the conventional method of the Dangerous Preparations Directive and is not classified as dangerous for the environment, but contains substance(s) dangerous for the environment. See section 3 for details.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Contaminated packages must be completely emptied and can be re-used following proper cleaning. Packing which cannot be properly cleaned must be disposed of.

SECTION 14: Transport information

14.1 UN number

No dangerous goods in sense of this transport regulation.

14.2 UN proper shipping name

No dangerous goods in sense of this transport regulation.

14.3 Transport hazard class(es)

No dangerous goods in sense of this transport regulation.

14.4 Packing group

No dangerous goods in sense of this transport regulation.

14.5 Environmental hazards

No dangerous goods in sense of this transport regulation.

14.6 Special precautions for user

None

SECTION 15: Regulatory information

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

National regulations

OPLOSMIDDELARM. VOLDOET VOOR PROFESSIONEEL GEBRUIK BINNEN NIET AAN ARBO. Vos gehalte Arbo
Nederland: Groep B: < 300 gram VOS per liter.

15.2 Chemical Safety Assessment

No information available.

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SECTION 16: Other information

16.1 Indication of changes

03. Hazardous ingredients

16.2 Abbreviations and acronyms

a.i. = Active ingredient
ACGIH = American Conference of Governmental Industrial Hygienists (US)
ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road
AFFF = Aqueous Film Forming Foam
AISE = International Association for Soaps, Detergents and Maintenance Products (joint project of AISE and CEFIC)
AOAC = AOAC International (formerly Association of Official Analytical Chemists)
aq. = Aqueous
ASTM = American Society of Testing and Materials (US)
atm = Atmosphere(s)
B.V. = Beperkt Vennootschap (Limited)
BCF = Bioconcentration Factor
bp = Boiling point at stated pressure
bw = Body weight
ca = (Circa) about
CAS No = Chemical Abstracts Service Number (see ACS - American Chemical Society)
CEFIC = European Chemical Industry Council (established 1972)
CIPAC = Collaborative International Pesticides Analytical Council
CLP = REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
Conc = Concentration
cP = CentiPoise
cSt = Centistokes
d = Day(s)
DIN = Deutsches Institut für Normung e.V.
DNEL = Derived No-Effect Level
DT50 = Time for 50% loss; half-life
EbC50 = Median effective concentration (biomass, e.g. of algae)
EC = European Community; European Commission
EC50 = Median effective concentration
EINECS = European Inventory of Existing Commercial Chemical Substances (EU, outdated, now replaced by EC Number)
ELINCS = European List of Notified (New) Chemicals (see Tab 7, Background - Guide)
ErC50 = Median effective concentration (growth rate, e.g. of algae)
EU = European Union
EWC = European Waste Catalogue
FAO = Food and Agriculture Organization (United Nations)
GIFAP = Groupement International des Associations Nationales de Fabricants de Produits Agrochimiques (now CropLife International)
h = Hour(s)
hPa = HectoPascal (unit of pressure)
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IC50 = Concentration that produces 50% inhibition
IMDG Code = International Maritime Dangerous Goods Code
IMO = International Maritime Organization
ISO = International Organization for Standardization
IUCLID = International Uniform Chemical Information Database
IUPAC = International Union of Pure and Applied Chemistry
kg = Kilogram
Kow = Distribution coefficient between n-octanol and water
kPa = KiloPascal (unit of pressure)
LC50 = Concentration required to kill 50% of test organisms
LD50 = Dose required to kill 50% of test organisms

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LEL = Lower Explosive Limit/Lower Explosion Limit
LOAEL = Lowest observed adverse effect level
mg = Milligram
min = Minute(s)
ml = Milliliter
mmHg = Pressure equivalent to 1 mm of mercury (133.3 Pa)
mp = Melting point
MRL = Maximum Residue Limit
MSDS = Material Safety Data Sheet
n.o.s. = Not Otherwise Specified
NIOSH = National Institute for Occupational Safety and Health (US)
NOAEL = No Observed Adverse Effect Level
NOEC = No observed effect concentration
NOEL = No Observable Effect Level
NOx = Oxides of Nitrogen
OECD = Organization for Economic Cooperation and Development
OEL = Occupational Exposure Limits
Pa = Pascal (unit of pressure)
PBT = Persistent, Bioaccumulative or Toxic
pH = -log₁₀ hydrogen ion concentration
pKa = -log₁₀ acid dissociation constant
PNEC = Previsible Non Effect Concentration
POPs = Persistent Organic Pollutants
ppb = Parts per billion
PPE = Personal Protection Equipment
ppm = Parts per million
ppt = Parts per trillion
PVC = Polyvinyl Chloride
QSAR = Quantitative Structure-Activity Relationship
REACH = Registration, Evaluation and Authorization of Chemicals (EU, see NCP)
SI = International System of Units
STEL = Short-Term Exposure Limit
tech. = Technical grade
TSCA = Toxic Substances Control Act (US)
TWA = Time-Weighted Average
vPvB = Very Persistent and Very Bioaccumulative
WHO = World Health Organization = OMS
y = Year(s)

16.3 Key literature references and sources for data

None

16.5 Relevant R-, H- and EUH-phrases (Number and full text)

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
R10	Flammable.
R20	Harmful by inhalation.

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R23	Toxic by inhalation.
R36/37/38	Irritating to eyes, respiratory system and skin.
R37	Irritating to respiratory system.
R42/43	May cause sensitization by inhalation and skin contact.
R43	May cause sensitization by skin contact.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

16.6 Training advice

None

16.7 Additional information

None

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.
