

Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH)
according to Regulation (EU) 2020/878

VFL
Vismara Farbladen

Article No.: 970
Print date: 27.12.2022
Version: 8.0

Härter I 2KAC
Revision date: 10.12.2022
Issue date: 10.12.2022

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

1.1. Product identifier

Article No. (manufacturer/supplier) 970
Trade name/designation Härter I 2KAC
UFI: WH1V-65MG-Q99A-8HNJ

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

Relevant identified uses

Coating material to protecting surfaces

1.3. Details of the supplier of the safety data sheet

supplier (manufacturer/importer/downstream user/distributor)
Vismara Unternehmungen CH-5000 Aarau www.farbladen.ch

Department responsible for information:

laboratory Manager
E-mail (competent person)

1.4. Emergency telephone number

Emergency telephone number 145 (+41 (0)44 251 51 51)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Flam. Liq. 3 / H226	Flammable liquids	Flammable liquid and vapour.
Acute Tox. 4 / H332	Acute toxicity (inhalative)	Harmful if inhaled.
Skin Sens. 1 / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.
STOT SE 3 / H335	STOT-single exposure	May cause respiratory irritation.
STOT SE 3 / H336	STOT-single exposure	May cause drowsiness or dizziness.
Aquatic Chronic 3 / H412	Hazardous to the aquatic environment	Harmful to aquatic life with long lasting effects.

2.2. Label elements

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

Hazard pictograms



Hazard statements

H226 Flammable liquid and vapour.
H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P261 Avoid breathing vapours.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.

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P280	Wear protective gloves and eye/face protection.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use extinguishing powder or sand to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Keep locked up.
P501	Dispose of contents/container to industrial incineration plant.

Hazard components for labelling

hexamethylene-di-isocyanate
HDI-homopolymers
n-butyl acetate

Supplemental hazard information

EUH204 Contains isocyanates. May produce an allergic reaction.

Use restriction according to REACH annex XVII, no.:

Restrictions on use

As from 24 August 2023 adequate training is required before industrial or professional use.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Description polyisocyanate hardener, containing the following hazardous substances:

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

EC No.	REACH No.	weight-%
CAS No.	Designation	
Index No.	classification: // Remark	
500-060-2	01-2119488934-20	
28182-81-2	HDI-homopolymers Acute Tox. 4 H332 / Skin Sens. 1 H317 / STOT SE 3 H335	60 - 80
204-658-1	01-2119485493-29	
123-86-4	n-butyl acetate	15 - 25
607-025-00-1	Flam. Liq. 3 H226 / STOT SE 3 H336 / EUH066	
918-668-5	01-2119455851-35 Hydrocarbons, C9, aromatics, <0.1% benzene STOT SE 3 H336 / Asp. Tox. 1 H304 / Aquatic Chronic 2 H411	5 - 10
212-485-8	01-2119457571-37	
822-06-0	hexamethylene-di-isocyanate	0.1 - 0.5
615-011-00-1	Acute Tox. 3 H331 / Eye Irrit. 2 H319 / STOT SE 3 H335 / Skin Irrit. 2 H315 / Resp. Sens. 1 H334 / Skin Sens. 1 H317 Specific concentration limit (SCL): Resp. Sens. 1 H334 >= 0.5 / Skin Sens. 1 H317 >= 0.5 Acute toxicity estimate (ATE): ATE (inhalation, vapour): 0.12 mg/L	

Additional information

Full text of classification: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice.

In case of inhalation

Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial

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respiration.

Following skin contact

Take off immediately all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners.

After eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

Following ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

In all cases of doubt, or when symptoms persist, seek medical advice.

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

First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

alcohol resistant foam, carbon dioxide, Powder, spray mist, (water)

Unsuitable extinguishing media

strong water jet

5.2. Special hazards arising from the substance or mixture

Dense black smoke occurs during fire. Inhaling hazardous decomposing products can cause serious health damage.

5.3. Advice for firefighters

Provide a conveniently located respiratory protective device. Cool closed containers that are near the source of the fire. Do not allow water used to extinguish fire to enter drains, ground or waterways.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Keep away from sources of ignition. Ventilate affected area. Do not breathe vapours.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13). Use appropriate container to avoid environmental contamination. Fouled surfaces must be immediately cleaned with suitable solvents, Useable as such (flammable): water 45 vol.% ethanol or i-propanol 50 vol. % ammonia solution (density= 0.88) 5 vol.%

Alternative (non-flammable): sodium carbonate 5 vol.% water 95 vol.%.

Take up spilled residuals with the same agent and leave them for a few days in unclosed containers until there is no further reaction. Then, close the containers and dispose of them in accordance with the regulations for waste removal (refer to section 13).

6.4. Reference to other sections

Observe protective provisions (see section 7 and 8).

SECTION 7: Handling and storage

People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this mixture.

People who spray this preparation should have regular pulmonary function tests.

7.1. Precautions for safe handling

Advices on safe handling

Avoid formation of flammable and explosive vapour concentrations in the air and exceeding the exposure limit values. Only use the material in places where open light, fire and other flammable sources can be kept away. Electrical equipment must be protected meeting the accepted standard. Product may become electrostatically charged. Provide earthing of containers, equipment, pumps and ventilation facilities. Anti-static clothing including shoes are recommended. Floors must be electrically

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conductive. Be careful when opening used containers (excess pressure). Precautionary measures should be taken in order to reduce strain from humidity or water: CO₂ is formed which may produce excess pressure in closed containers. Keep away from heat sources, sparks and open flames. Use only spark proof tools. Avoid contact with skin, eyes and clothes. Do not inhale dusts, particulates and spray mist when using this preparation. Avoid respiration of swarf. When using do not eat, drink or smoke. Personal protection equipment: refer to section 8. Do not empty containers with pressure - no pressure vessel! Always keep in containers that correspond to the material of the original container. Follow the legal protection and safety regulations.

Further information

Vapours are heavier than air. Vapours form explosive mixtures with air.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Storage in accordance with the Ordinance on Industrial Safety and Health (BetrSiVO). Keep container tightly closed. Do not empty containers with pressure - no pressure vessel! Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks. Soils have to conform to the "Guidelines for avoidance of ignition hazards due to electrostatic charges (TRGS 727)".

Hints on joint storage

Keep away from strongly acidic and alkaline materials as well as oxidizers. Keep away from amines, alcohols and water.

Further information on storage conditions

Take care of instructions on label. Store in a well-ventilated and dry room at temperatures between 15 °C and 30 °C. Protect from heat and direct sunlight. Keep container tightly closed. Remove all sources of ignition. Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks.

7.3. Specific end use(s)

Observe technical data sheet. Observe instructions for use.

SECTION 8: Exposure controls/personal protection

People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this mixture.

People who spray this preparation should have regular pulmonary function tests.

8.1. Control parameters

Occupational exposure limit values:

not applicable

DNEL:

hexamethylene-di-isocyanate

Index No. 615-011-00-1 / EC No. 212-485-8 / CAS No. 822-06-0

DNEL acute inhalative (local), Workers: 0,07 mg/m³

DNEL long-term inhalative (systemic), Workers: 0,035 mg/m³

n-butyl acetate

Index No. 607-025-00-1 / EC No. 204-658-1 / CAS No. 123-86-4

DNEL short-term oral (acute), Workers:

DNEL long-term inhalative (systemic), Workers: 480 mg/m³

DNEL long-term inhalative (systemic), Consumer: 102,34 mg/m³

HDI-homopolymers

EC No. 500-060-2 / CAS No. 28182-81-2

DNEL acute inhalative (local), Workers: 1 mg/m³

DNEL long-term inhalative (local), Workers: 0,5 mg/m³

PNEC:

n-butyl acetate

Index No. 607-025-00-1 / EC No. 204-658-1 / CAS No. 123-86-4

PNEC aquatic, freshwater: 0,18 mg/L

PNEC aquatic, marine water: 0,018 mg/L

PNEC aquatic, intermittent release: 0,36 mg/L

PNEC sediment, freshwater: 0,981 mg/kg Sediment dry weight

PNEC sediment, marine water: 0,0981 mg/kg Sediment dry weight

PNEC, soil: 0,0903 mg/kg Sediment dry weight

PNEC sewage treatment plant (STP): 35,6 mg/L

HDI-homopolymers

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EC No. 500-060-2 / CAS No. 28182-81-2
PNEC aquatic, freshwater: 0,127 mg/L
PNEC aquatic, marine water: 0,0127 mg/L
PNEC sediment, freshwater: 266700 mg/kg Sediment dry weight
PNEC sediment, marine water: 266700 mg/kg Sediment dry weight
PNEC, soil: 53182 mg/kg
PNEC sewage treatment plant (STP): 38,28 mg/L

8.2. Exposure controls

Provide good ventilation. This can be achieved with local or room suction. When spraying, wear self-contained breathing apparatus. For other tasks a suitable respiratory system must be used, if local and room suction is not sufficient for keeping aerosol and solvent vapour concentration below the exposure limit values. (refer to Personal protection equipment.)

Personal protection equipment

Respiratory protection

If concentration of solvents is beyond the occupational exposure limit values, approved and suitable respiratory protection must be used. Use only respiratory protection equipment with CE-symbol including four digit test number.

Hand protection

For prolonged or repeated handling the following glove material must be used: NBR (Nitrile rubber)

Thickness of the glove material > 0,4 mm ; Breakthrough time: > 480 min.

Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin. Recommended glove articles EN ISO 374

Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

Eye/face protection

Wear closely fitting protective glasses in case of splashes.

Body protection

Wear antistatic clothing of natural fibers (cotton) or heat resistant synthetic fibers.

Protective measures

After contact clean skin thoroughly with water and soap or use appropriate cleanser.

Environmental exposure controls

Do not allow to enter into surface water or drains. See section 7. No additional measures necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

*

Physical state:	Liquid
Colour:	refer to label
Odour:	characteristic
Odour threshold:	not applicable
Melting point/freezing point:	not applicable
Initial boiling point and boiling range:	126 °C Source: n-butyl acetate
Flammability	Flammable liquid and vapour.
Lower and upper explosion limit	
Lower explosion limit:	1.38 Vol-%
Upper explosion limit:	12.7 Vol-% Source: Dowanol PGDA
Flash point:	25 °C Method: DIN 53213
Auto-ignition temperature:	370 °C Source: n-butyl acetate
Decomposition temperature:	not applicable
pH at 20 °C:	not applicable
Cinematic viscosity (40°C):	< 80 mm²/s

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Viscosity: at 20 °C: 16 - 19 sec DIN 4 mm
Solubility(ies):
Water solubility at 20 °C: insoluble
Partition coefficient: n-octanol/water: see section 12
Vapour pressure at 20 °C: 13 mbar
Source: n-butyl acetate

Density and/or relative density:
Density at 20 °C: 1.07 g/cm³
Relative vapour density: not applicable
particle characteristics: not applicable

9.2. Other information

Solid content: 69 weight-%
solvent content:
Organic solvents: 31 weight-%
Water: 0 weight-%

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with water, forming carbon dioxide, producing bursting hazard in closed containers due to build-up of pressure.

10.2. Chemical stability

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7.

10.3. Possibility of hazardous reactions

Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions. Reacts with water, forming carbon dioxide, producing bursting hazard in closed containers due to build-up of pressure.

10.4. Conditions to avoid

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7. Hazardous decomposition byproducts may form with exposure to high temperatures.

10.5. Incompatible materials

not applicable

10.6. Hazardous decomposition products

Hazardous decomposition byproducts may form with exposure to high temperatures, e.g.: carbon dioxide, carbon monoxide, smoke, nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Harmful if inhaled.

hexamethylene-di-isocyanate

oral, LD50, Rat: 746 mg/kg

Method: OECD 401

dermal, LD50, Rat: > 7000 mg/kg

Method: OECD 402

dermal, LD50, Rabbit: 570 mg/kg

inhalative (vapours), LC50, Rat: 0,124 mg/L (4 h)

Method: OECD 403

inhalative (vapours), LC50, Mouse: 1,57 mg/L

n-butyl acetate

oral, LD50, Rat: 10760 mg/kg

Method: OECD 423

dermal, LD50, Rabbit: 14112 mg/kg

Method: OECD 402

inhalative (dust and mist), LC50, Rat: 23,4 mg/L (4 h)

Method: OECD 403

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HDI-homopolymers

dermal, LD50, Rat: > 2000 mg/kg

Method: OECD 402

inhalative (vapours), LC50, Rat: 543 mg/L (4 h)

Method: OECD 403

inhalative (vapours), LC50, Rat, female: 390 mg/m³ (4 h)

Method: OECD 403

Hydrocarbons, C9, aromatics, <0.1% benzene

oral, LD50, Rat: 3492 mg/kg

dermal, LD50, Rabbit: > 3160 mg/kg

inhalative (vapours), LC50, Rat: 6 mg/m³ 10 (4 h)

Skin corrosion/irritation; Serious eye damage/eye irritation

hexamethylene-di-isocyanate

Skin (4 h)

Method: OECD 404

Corrosive

eyes

Method: OECD 405

Causes serious eye irritation.; Causes serious eye damage.

n-butyl acetate

Skin, Rabbit (4 h)

Method: OECD 404

No skin irritation

eyes

Method: OECD 405

No eye irritation

HDI-homopolymers

Skin, Rabbit (4 h)

Method: OECD 404

mild irritant.

eyes, Rabbit

Method: OECD 405

mild irritant.

Hydrocarbons, C9, aromatics, <0.1% benzene

Skin (4 h)

Method: OECD 404

Not to be classified as skin etching/irritant.

eyes

Method: OECD 405

Not to be classified as severe eye damage or eye irritation.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

hexamethylene-di-isocyanate

Skin, Guinea pig: ; Evaluation positive

Method: OECD 406

Respiratory system, Guinea pig: ; Evaluation positive

Method: OECD 406

n-butyl acetate

Skin, Guinea pig: ; Evaluation not sensitising.

Method: OECD 406

Mouse mouse ear swelling test (MEST)

HDI-homopolymers

Skin, Guinea pig: ; Evaluation sensitising

Method: OECD 406

Magnuson/Klingmann test

Respiratory system, Guinea pig: ; Evaluation sensitising

Method: OECD 406

Magnuson/Klingmann test

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Hydrocarbons, C9, aromatics, <0.1% benzene

Skin:

Method: OECD 406

Not to be classified as skin sensitising.

Respiratory system:

No data available

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

hexamethylene-di-isocyanate

Germ cell mutagenicity

Mutagenicity (mammalian cell test): chromosome aberration. Ovarian cells of Chinese hamster Result: negative

Carcinogenicity

Showed no carcinogenic effect in animal experiments.

Reproductive toxicity

No effect on fertility in animal studies.

Genotoxicity in vivo; Evaluation negative

Method: OECD 474

Mouse; Inhalation; bone marrow

Genotoxicity in vitro; Evaluation negative

Method: Ames test

Salmonella typhimurium

teratogenicity

Did not show any fruit-damaging effect in animal experiments.

n-butyl acetate

Germ cell mutagenicity; Evaluation Ames test negative.

HDI-homopolymers

Germ cell mutagenicity

The product showed no mutagenic properties in bacteria and mammalian cell cultures.

Carcinogenicity

No data available

Reproductive toxicity

No data available

Hydrocarbons, C9, aromatics, <0.1% benzene

Germ cell mutagenicity

Not to be classified as germ cell mutagen (mutagen).

Carcinogenicity

There are in vivo studies that indicate positive results of kidney cancer.

Reproductive toxicity

Does not qualify as a carcinogen.

In vitro mutagenicity; Evaluation positive

STOT-single exposure; STOT-repeated exposure

May cause respiratory irritation.

May cause drowsiness or dizziness.

hexamethylene-di-isocyanate

Specific target organ toxicity (single exposure)

May cause respiratory irritation.; Target organs: Respiratory system

Specific target organ toxicity (repeated exposure)

No data available

n-butyl acetate

Specific target organ toxicity (single exposure)

central nervous system; May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure)

human; Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).; Steam in high concentration leads to unconsciousness.

HDI-homopolymers

Specific target organ toxicity (single exposure) Evaluation May cause respiratory irritation.

Specific target organ toxicity (repeated exposure) Evaluation After repeated recording, the local irritant effect is in the foreground.

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Hydrocarbons, C9, aromatics, <0.1% benzene

Specific target organ toxicity (single exposure)

May cause respiratory irritation and depression of central nervous system with drowsiness, dizziness, weakness, loss of consciousness, nausea and headache.

Specific target organ toxicity (repeated exposure)

No data available

Aspiration hazard

n-butyl acetate

Aspiration hazard; Evaluation No classification for aspiration toxicity

HDI-homopolymers

Aspiration hazard; Evaluation No danger of aspiration to be assumed.

Hydrocarbons, C9, aromatics, <0.1% benzene

Aspiration hazard

May be fatal if swallowed and enters airways.

Practical experience/human evidence

Inhaling of solvent components above the MWC-value can lead to health damage, e.g. irritation of the mucous membrane and respiratory organs, as well as damage to the liver, kidneys and the central nerve system. Indications for this are: headache, dizziness, fatigue, amyosthenia, drowsiness, in serious cases: unconsciousness. Solvents may cause some of the aforementioned effects through skin resorption. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and/or absorption through skin. Splashing may cause eye irritation and reversible damage. Because of the isocyanate components' properties of this and with consideration of similar preparations the following applies: This mixture may cause acute irritation and/or sensitization of airways which lead to tightness in thorax, short-breath and asthmatic complaints. After sensitization even concentrations below the exposure limit values may cause asthma. Repeated inhaling can lead to permanent illness of the respiratory tract.

Overall assessment on CMR properties

The ingredients in this mixture do not meet the criteria for classification as CMR category 1A or 1B according to CLP.

11.2. Information on other hazards

Endocrine disrupting properties

No information available.

SECTION 12: Ecological information

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

Do not allow to enter into surface water or drains.

12.1. Toxicity

hexamethylene-di-isocyanate

Fish toxicity, LC50, Danio rerio (zebrafish): 22 mg/L (96 h)

Algae toxicity, ErC50, Desmodesmus subspicatus: > 77,4 mg/L (72 h)

Method: OECD 201

accompanying analysis: yes

growth inhibition, NOEC, Desmodesmus subspicatus: 11,7 mg/L (72 h)

Method: OECD 201

accompanying analysis: yes

Bacteria toxicity, EC0, Pseudomonas putida: 100 mg/L (24 h)

(IUCLID)

respiratory inhibition, EC50, Activated sludge: 842 mg/L (3 h)

Method: OECD 209

n-butyl acetate

Fish toxicity, LC50, Pimephales promelas (fathead minnow): 18 mg/L (96 h)

Method: OECD 203

Daphnia toxicity, EC50, Daphnia magna (Big water flea): 44 mg/L (48 h)

Algae toxicity, ErC50

Algae toxicity, EC50, Desmodesmus subspicatus: 647,7 mg/L (72 h)

(Growth inhibition)

Algae toxicity, NOEC, Desmodesmus subspicatus: 200 mg/L

Bacteria toxicity, IC50, Tetrahymena: 356 mg/L (40 h)

HDI-homopolymers

Fish toxicity, LC50, Danio rerio (zebrafish): > 100 mg/L (96 h)

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Method: OECD 203
Daphnia toxicity, EC50, Daphnia magna: > 100 mg/L (48 h)
Method: OECD 202
Algae toxicity, IC50, Scenedesmus subspicatus: > 100 mg/L (72 h)
Method: OECD 201
Bacteria toxicity, EC50, Activated sludge: 1000 mg/L (3 h)
Method: OECD 209
Hydrocarbons, C9, aromatics, <0.1% benzene
Fish toxicity, LC50, Oncorhynchus mykiss (Rainbow trout): 9,2 mg/L (96 h)
Daphnia toxicity, EC50, Daphnia magna: 1,6 mg/L (48 h)

Long-term Ecotoxicity

Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

hexamethylene-di-isocyanate

Biodegradation: < 0,0001 percent (28 d); Evaluation Poorly eliminated from water.
Method: OECD 302C

n-butyl acetate

Persistence and degradability: Evaluation No data available
Biodegradation: 83 percent (28 d); Evaluation Readily biodegradable (according to OECD criteria).
Method: OECD 301D
aerobic.

HDI-homopolymers

Biodegradation: Evaluation Not readily biodegradable (according to OECD criteria)
Method: OECD 301C

Hydrocarbons, C9, aromatics, <0.1% benzene

Biodegradation: Evaluation Readily biodegradable (according to OECD criteria).

12.3. Bioaccumulative potential

n-butyl acetate

Distribution coefficient n-octanol/water (log KOW):
No data available

HDI-homopolymers

Distribution coefficient n-octanol/water (log KOW):
No data available

Hydrocarbons, C9, aromatics, <0.1% benzene

Distribution coefficient n-octanol/water (log KOW): 3,7 - 4,5

Bioconcentration factor (BCF)

Toxicological data are not available.

12.4. Mobility in soil

n-butyl acetate

:
No data available

HDI-homopolymers

soil:
No data available

Hydrocarbons, C9, aromatics, <0.1% benzene

soil:
No data available

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

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13.1. Waste treatment methods

Appropriate disposal / Product Recommendation

Do not allow to enter into surface water or drains. Handle contaminated packages in the same way as the substance itself. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

List of proposed waste codes/waste designations in accordance with EWC

080111* Waste paint and varnish containing organic solvents or other dangerous substances

*Hazardous waste according to Directive 2008/98/EC (waste framework directive).

Appropriate disposal / Package Recommendation

Non-contaminated packages may be recycled. Vessels not properly emptied are special waste.

SECTION 14: Transport information

14.1. UN number or ID number

UN 1263

14.2. UN proper shipping name

Land transport (ADR/RID): Paint
Sea transport (IMDG): PAINT
Air transport (ICAO-TI / IATA-DGR): Paint

14.3. Transport hazard class(es)

3

14.4. Packing group

III

14.5. Environmental hazards

Land transport (ADR/RID) not applicable
Marine pollutant not applicable

14.6. Special precautions for user

Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage.

Advices on safe handling: see parts 6 - 8

Further information

Land transport (ADR/RID)

Tunnel restriction code D/E

Sea transport (IMDG)

EmS-No. F-E, S-E

14.7. Maritime transport in bulk according to IMO instruments

No transport as bulk according IBC - Code.

SECTION 15: Regulatory information

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

EU legislation

Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive]

VOC-value (in g/L): 332

Use restriction according to REACH annex XVII, no.:

Restrictions on use

As from 24 August 2023 adequate training is required before industrial or professional use.

National regulations

Restrictions of occupation

Observe employment restrictions under the Maternity Protection Directive 92/85/EEC or stricter national regulations, if applicable.

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC) or stricter national regulations, if applicable.

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15.2. Chemical Safety Assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

EC No. CAS No.	Designation	REACH No.
500-060-2 28182-81-2	HDI-homopolymers	01-2119488934-20
204-658-1 123-86-4	n-butyl acetate	01-2119485493-29
918-668-5 212-485-8 822-06-0	Hydrocarbons, C9, aromatics, <0.1% benzene hexamethylene-di-isocyanate	01-2119455851-35 01-2119457571-37

SECTION 16: Other information

Full text of classification in section 3:

Acute Tox. 4 / H332	Acute toxicity (inhalative)	Harmful if inhaled.
Skin Sens. 1 / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.
STOT SE 3 / H335	STOT-single exposure	May cause respiratory irritation.
Flam. Liq. 3 / H226	Flammable liquids	Flammable liquid and vapour.
STOT SE 3 / H336	STOT-single exposure	May cause drowsiness or dizziness.
Asp. Tox. 1 / H304	Aspiration hazard	May be fatal if swallowed and enters airways.
Aquatic Chronic 2 / H411	Hazardous to the aquatic environment	Toxic to aquatic life with long lasting effects.
Acute Tox. 3 / H331	Acute toxicity (inhalative)	Toxic if inhaled.
Eye Irrit. 2 / H319	Serious eye damage/eye irritation	Causes serious eye irritation.
Skin Irrit. 2 / H315	Skin corrosion/irritation	Causes skin irritation.
Resp. Sens. 1 / H334	Respiratory or skin sensitisation	May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Classification procedure

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Flam. Liq. 3	Flammable liquids	On basis of test data.
Acute Tox. 4	Acute toxicity (inhalative)	Calculation method.
Skin Sens. 1	Respiratory or skin sensitisation	Calculation method.
STOT SE 3	STOT-single exposure	Calculation method.
STOT SE 3	STOT-single exposure	Calculation method.
Aquatic Chronic 3	Hazardous to the aquatic environment	Calculation method.

Abbreviations and acronyms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
OEL	Occupational Exposure Limit Value
BLV	Biological Limit Value
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	Carcinogenic, Mutagenic and Reprotoxic
DIN	German Institute for Standardization / German industrial standard
DNEL	Derived No-Effect Level
EAKV	European Waste Catalogue Directive
EC	Effective Concentration
EC	European Community
EN	European Standard
IATA-DGR	International Air Transport Association – Dangerous Goods Regulations
IBC Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO-TI	International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG Code	International Maritime Code for Dangerous Goods
ISO	International Organization for Standardization
LC	Lethal Concentration
LD	Lethal Dose
MARPOL	Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OECD	Organisation for Economic Cooperation and Development
PBT	persistent, bioaccumulative, toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals

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RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
UN	United Nations
VOC	Volatile Organic Compounds
vPvB	very persistent and very bioaccumulative

Further information

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

The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations. Without written approval, the product must not be used for purposes different from those mentioned in section 1. It is always the user's duty to take any necessary measures for meeting the requirements laid down by local rules and regulations. The details in this safety data sheet describe the safety requirements of our product and are not to be regarded as guaranteed attributes of the product.

* Data changed compared with the previous version