

Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH)
according to Regulation (EU) 2015/830

PLANTAGLINE

JORDAN LACKE
POG GROUP

PLANTAG COATINGS in Kooperation mit JORDAN Lacke.

Article No.: PXH 34 PLANTAG Express Härter 11217 EN
Print date: 05.03.2019 Revision date: 05.03.2019 Page 1 / 14
Version: 1.12 Issue date: 05.03.2019

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

1.1. Product identifier

Article No. (manufacturer/supplier) PXH 34
Trade name/designation PLANTAG Express Härter

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

Relevant identified uses
hardener

1.3. Details of the supplier of the safety data sheet

supplier (manufacturer/importer/downstream user/distributor)

PLANTAG Coatings GmbH
Plantagenweg 34-38 05231/6002-0
32758 Detmold 05231/6002-10
info@plantag.de
www.plantag.de

Dept. responsible for information:

Product Safety Department 7:30 a.m. - 4:45 p.m. Christin Seier
E-mail (competent person) +49 (0) 5231 / 6002673
c.seier@plantag.de
Ralf Hachmeister
+49 (0) 5231 / 6002671
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1.4. Emergency telephone number

Germany 0800-181-7059
USA/Canada 1-800-424-9300
Outside USA/Canada +001 703 527 3887
China 4001 204937 (Mandarin)
Hong Kong 800 968 793 (Cantonese)

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. 2 / H225	Flammable liquids	Highly flammable liquid and vapour.
Eye Irrit. 2 / H319	Serious eye damage/eye irritation	Causes serious eye irritation.
Resp. Sens. 1 / H334	Respiratory or skin sensitisation	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens. 1 / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.
STOT SE 3 / H336	STOT-single exposure	May cause drowsiness or dizziness.

2.2. Label elements

*

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

Hazard pictograms



Danger

Hazard statements

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H336 May cause drowsiness or dizziness.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243 Take action to prevent static discharges.

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P261 Avoid breathing vapours.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves and eye/face protection.
 P284 In case of inadequate ventilation wear respiratory protection.
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
 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

4-methyl-m-phenylene diisocyanate
 2,4-diisocyanato-1-methylbenzene
 ethyl acetate
 Hexamethylene diisocyanate, oligomers

Supplemental Hazard information (EU)

EUH066 Repeated exposure may cause skin dryness or cracking.
 EUH204 Contains isocyanates. May produce an allergic reaction.

2.3. Other hazards

No information available.

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Description Isocyanate containing product.

Hazardous ingredients

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

EC No. CAS No. INDEX No.	REACH No. Designation classification: // Remark	Wt %
205-500-4 141-78-6 607-022-00-5 642-372-2 26426-91-5	01-2119475103-46 ethyl acetate Flam. Liq. 2 H225 / Eye Irrit. 2 H319 / STOT SE 3 H336	20 < 25
204-658-1 123-86-4 607-025-00-1	01-2119485493-29 n-butyl acetate Flam. Liq. 3 H226 / STOT SE 3 H336	12,5 < 20
201-159-0 78-93-3 606-002-00-3	01-2119457290-43 butanone Flam. Liq. 2 H225 / Eye Irrit. 2 H319 / STOT SE 3 H336	12,5 < 20
500-060-2 28182-81-2	01-2119485796-17-0000 Hexamethylene diisocyanate, oligomers Acute Tox. 4 H332 / Skin Sens. 1 H317 / STOT SE 3 H335	10 < 12,5
212-485-8 822-06-0 615-011-00-1	01-2119457571-37-XXXX hexamethylene-di-isocyanate Acute Tox. 4 H302 / Acute Tox. 1 H330 / Skin Irrit. 2 H315 / Eye Irrit. 2 H319 / Resp. Sens. 1 H334 / Skin Sens. 1 H317 / STOT SE 3 H335	< 0,5
209-544-5 584-84-9 615-006-00-4	01-2119486974-18-000X 4-methyl-m-phenylene diisocyanate Acute Tox. 1 H330 / Skin Irrit. 2 H315 / Eye Irrit. 2 H319 / Skin Sens. 1 H317 / Resp. Sens. 1 H334 / Carc. 2 H351 / STOT SE 3 H335 / Aquatic Chronic 3 H412	< 0,5

Additional information

Full text of classification: see section 16

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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.
Remove affected person from the danger area and lay down.
Put victim at rest, cover with a blanket and keep warm.
In case of irregular breathing or respiratory arrest provide artificial respiration.
Move victim to fresh air.
In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice.
Take off immediately all contaminated clothing.

Following inhalation

Remove casualty to fresh air and keep warm and at rest.
If unconscious place in recovery position and seek medical advice.
In case of irregular breathing or respiratory arrest provide artificial respiration.
In all cases of doubt, or when symptoms persist, seek medical advice.
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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.
Call a physician immediately.
Wash contaminated clothing prior to re-use.
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After ingestion

Rinse mouth immediately and drink plenty of water.
Seek medical advice immediately.
Keep victim calm. Do NOT induce vomiting.
Never give anything by mouth to an unconscious person or a person with cramps.

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. *

Symptoms

May irritate eyes.
May cause respiratory irritation.
May irritate skin.
Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).
Respiratory or skin sensitisation

Special treatment

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

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.
In case of fire may be liberated: carbon monoxide, carbon dioxide, Nitrogen oxides (NOx), Isocyanates, Explosive vapour/air mixture, Gases/vapours, harmful.
Possible in traces: Hydrogen cyanide (hydrocyanic acid).

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Vapours are heavier than air, spread along floors and form explosive mixtures with air.
Reignition possible over considerable distance.

5.3. Advice for firefighters

Provide a conveniently located respiratory protective device.
Wear full chemical protective clothing.
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.
Keep people away from and upwind of spill/leak.

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.
See protective measures under point 7 and 8.
Avoid contact with eyes and skin.
Remove persons to safety.
Wear suitable protective clothing.
Keep away from heat. - No smoking.
Take precautionary measures against static discharges.
Keep people away from and upwind of spill/leak.

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).
Provide adequate ventilation.

6.4. Reference to other sections

SECTION 7: Handling and storage
SECTION 8: Exposure controls/personal protection
SECTION 13: Disposal considerations

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 preparation.
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 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.
Protect from sunlight.
Keep away from food, drink and animal feedingstuffs.
Take off immediately all contaminated clothing.

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Separate storage of work clothes.
Wash hands before breaks and after work.
Handle in accordance with good industrial hygiene and safety practice.

Further information

Take precautionary measures against static discharges.
Keep away from sources of ignition - No smoking.

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.
Store carefully closed containers upright to prevent any leaks.

Hints on joint storage

Keep away from: Oxidizing agent, Acids, Alkali (lye), Amines, Alcohols, Reducing agent, Peroxides, Radical former.
Keep away from food, drink and animal feedingstuffs.
Do not store together with oxidizing and self-igniting products.

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.
Store carefully closed containers upright to prevent any leaks.
Keep only in the original container.
Can polymerise exothermically if heated, exposed to air, sunlight or by addition of free radical initiators.

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

8.1. Control parameters

Occupational exposure limit values

ethyl acetate

INDEX No. 607-022-00-5 / EC No. 205-500-4 / CAS No. 141-78-6

WEL, TWA: 730 mg/m³; 200 ppm

WEL, STEL: 1460 mg/m³; 400 ppm

n-butyl acetate

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

MEL/OES, TWA: 724 mg/m³; 150 ppm

MEL/OES, STEL: 966 mg/m³; 200 ppm

butanone

INDEX No. 606-002-00-3 / EC No. 201-159-0 / CAS No. 78-93-3

WEL, TWA: 600 mg/m³; 200 ppm

WEL, STEL: 899 mg/m³; 300 ppm

Additional information

TWA : long-term occupational exposure limit value
STEL : short-term occupational exposure limit value
Ceiling : peak limitation

DNEL:

butanone

INDEX No. 606-002-00-3 / EC No. 201-159-0 / CAS No. 78-93-3

DNEL long-term dermal (systemic), Workers: 1161 mg/kg

DNEL long-term inhalative (systemic), Workers: 600 mg/m³

DNEL long-term oral (repeated), Consumer: 31 mg/kg

DNEL acute dermal, short-term (local), Consumer: 412 mg/kg

DNEL long-term inhalative (systemic), Consumer: 106 mg/m³

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4-methyl-m-phenylene diisocyanate

INDEX No. 615-006-00-4 / EC No. 209-544-5 / CAS No. 584-84-9

DNEL acute inhalative (local), Workers: 0,14 mg/m³
DNEL acute inhalative (systemic), Workers: 0,14 mg/m³
DNEL long-term inhalative (local), Workers: 0,035 mg/m³
DNEL long-term inhalative (systemic), Workers: 0,035 mg/m³

hexamethylene-di-isocyanate

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

DNEL acute inhalative (systemic), Workers: 0,07 mg/m³
DNEL long-term inhalative (systemic), Workers: 0,035 mg/m³

ethyl acetate

INDEX No. 607-022-00-5 / EC No. 205-500-4 / CAS No. 141-78-6

DNEL long-term dermal (systemic), Workers: 63 mg/kg
DNEL acute inhalative (local), Workers: 1468 mg/m³
DNEL acute inhalative (systemic), Workers: 1468 mg/m³
DNEL long-term inhalative (local), Workers: 734 mg/m³
DNEL long-term inhalative (systemic), Workers: 734 mg/m³
DNEL long-term oral (repeated), Consumer: 4,5 mg/kg
DNEL long-term dermal (systemic), Consumer: 37 mg/kg
DNEL acute inhalative (local), Consumer: 734 mg/m³
DNEL acute inhalative (systemic), Consumer: 734 mg/m³
DNEL long-term inhalative (local), Consumer: 367 mg/m³
DNEL long-term inhalative (systemic), Consumer: 367 mg/m³

n-butyl acetate

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

DNEL long-term dermal (systemic), Workers: 7 mg/kg bw/day
DNEL acute inhalative (local), Workers: 960 mg/m³
DNEL acute inhalative (systemic), Workers: 960 mg/m³
DNEL long-term inhalative (local), Workers: 480 mg/m³
DNEL long-term inhalative (systemic), Workers: 48 mg/m³
DNEL long-term dermal (systemic), Consumer: 3,4 mg/kg bw/day
DNEL acute inhalative (local), Consumer: 859,7 mg/m³
DNEL acute inhalative (systemic), Consumer: 859,7 mg/m³
DNEL long-term inhalative (local), Consumer: 102,34 mg/m³
DNEL long-term inhalative (systemic), Consumer: 12 mg/m³

Hexamethylene diisocyanate, oligomers

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:

butanone

INDEX No. 606-002-00-3 / EC No. 201-159-0 / CAS No. 78-93-3

PNEC aquatic, freshwater: 55,8 mg/l
PNEC aquatic, marine water: 55,8 mg/l
PNEC aquatic, intermittent release: 55,8 mg/l
PNEC, soil: 22,5 mg/kg
PNEC sewage treatment plant (STP): 709 mg/l

4-methyl-m-phenylene diisocyanate

INDEX No. 615-006-00-4 / EC No. 209-544-5 / CAS No. 584-84-9

PNEC aquatic, freshwater: 0,013 mg/l
PNEC aquatic, marine water: 0,0013 mg/l
PNEC, soil: > 1 mg/kg
PNEC sewage treatment plant (STP): > 1 mg/l

hexamethylene-di-isocyanate

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

PNEC aquatic, freshwater: > 0,0774 mg/l
PNEC aquatic, marine water: > 0,0077 mg/l
PNEC sediment, freshwater: > 0,0133 mg/kg
PNEC sediment, marine water: > 0,0013 mg/kg

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PNEC, soil: > 0,0026 mg/kg
PNEC sewage treatment plant (STP): 8,42 mg/l

ethyl acetate

INDEX No. 607-022-00-5 / EC No. 205-500-4 / CAS No. 141-78-6

PNEC aquatic, freshwater: 0,24 mg/l
PNEC aquatic, marine water: 0,024 mg/l
PNEC aquatic, intermittent release: 1,65 mg/l
PNEC sediment, freshwater: 1,25 mg/kg
PNEC sediment, marine water: 0,115 mg/kg
PNEC, soil: 0,148 mg/kg
PNEC sewage treatment plant (STP): 650 mg/l
PNEC Secondary Poisoning: 200 mg/kg

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 sediment, freshwater: 0,981 mg/l
PNEC sediment, marine water: 0,0981 mg/l
PNEC sewage treatment plant (STP): 35,6 mg/l

Hexamethylene diisocyanate, oligomers

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

PNEC aquatic, freshwater: 0,199 mg/l
PNEC aquatic, marine water: 0,0199 mg/l
PNEC sediment, freshwater: 44551 mg/kg
PNEC sediment, marine water: 4455 mg/kg
PNEC, soil: 8884 mg/kg
PNEC sewage treatment plant (STP): 100 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. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190). Use only respiratory protection equipment with CE-symbol including four digit test number. respirator with A/P-filter (EN 14387)

Hand protection

For prolonged or repeated handling the following glove material must be used: Chemical proof safety gloves

Thickness of the glove material > 0,4 mm ; Breakthrough time (maximum wearing 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 eye glasses with side protection according to EN 166.

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.

Handle in accordance with good industrial hygiene and safety practice.

Avoid contact with eyes and skin.

Do not breathe vapour/aerosol.

Keep away from food, drink and animal feedingstuffs.

Take off immediately all contaminated clothing.

Separate storage of work clothes.

When using do not eat, drink or smoke.

Wash hands before breaks and after work.

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Guarantee that the eye flushing systems and safety showers are closely located to the working place.

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

Appearance:

Physical state: Liquid
Colour: colourless

Odour: characteristic

Odour threshold: not determined

pH at 20 °C: not determined

Melting point/freezing point: not applicable

Initial boiling point and boiling range: 77 °C
Source: ethyl acetate

Flash point: -4 °C

Evaporation rate: not determined

flammability

Burning time (s): not applicable

Upper/lower flammability or explosive limits:

Lower explosion limit: 0,8 Vol-%
Upper explosion limit: 11,5 Vol-%
Source: butanone

Vapour pressure at 20 °C: 105 mbar
Source: butanone

Vapour density: not determined

Relative density:
Density at 20 °C: 0,98 g/cm³

Solubility(ies):
Water solubility (g/L) at 20 °C: insoluble

Partition coefficient: n-octanol/water: see section 12

Auto-ignition temperature: 415 °C
Source: n-butyl acetate

Decomposition temperature: not determined

Viscosity at °C: 11 - 13 s 4mm

Explosive properties: not applicable

Oxidising properties: not applicable

9.2. Other information

Solid content (%): 35,29 Wt %

solvent content:
Organic solvents: 64,71 Wt %
Water: 0,00 Wt %

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

The product is stable under storage at normal ambient temperatures.
Further remarks: SECTION 7: Handling and storage

10.3. Possibility of hazardous reactions

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

10.4. Conditions to avoid

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This preparation contains material instable under the following conditions: Heat, strong ultraviolet radiation. An exotherm polymerization of the product may thereby be caused. Avoid unintended contact with it. Hazardous decomposition byproducts may form with exposure to high temperatures.

Protect from frost.

10.5. Incompatible materials

Alkali (lye), Oxidizing agent, Acids, Amines, Alcohols, Reducing agent, Peroxides, Radical former

10.6. Hazardous decomposition products

Hazardous decomposition byproducts may form with exposure to high temperatures, e.g.: carbon dioxide, carbon monoxide, smoke, Nitrogen oxides (NOx), Isocyanates, Explosive vapour/air mixture.

Possible in traces: Hydrogen cyanide (hydrocyanic acid), Gases/vapours, harmful.

SECTION 11: Toxicological information

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

No data on preparation itself available.

11.1. Information on toxicological effects

Acute toxicity

butanone

oral, LD50, Rat: 2740 mg/kg

dermal, LD50, Rabbit: 5000 mg/kg

inhalative (vapours), LC50, Rat: 34 mg/l (4 h)

4-methyl-m-phenylene diisocyanate

oral, LD50, Rat: > 2000 mg/kg

dermal, LD50, Rabbit: > 2000 mg/kg

inhalative (vapours), LC50, Rat: 0,0997 mg/l (4 h)

hexamethylene-di-isocyanate

oral, LD50, Rat: 738 mg/kg

dermal, LD50, Rat: > 7000 mg/kg

dermal, LD50, Rabbit: > 7000 mg/kg

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

ethyl acetate

oral, LD50, Rat: 4934 mg/kg

Method: OECD 401

dermal, LD50, Rabbit: > 18000 mg/kg

inhalative (vapours), LC50, Rat: 56 mg/l (4 h)

oral, LD50, Mouse: 4100 mg/kg

oral, LD50, Rabbit: 4935 mg/kg

n-butyl acetate

oral, LD50, Rat: > 10000 mg/kg

Method: OECD 423

dermal, LD50, Rat: > 14000 mg/kg

dermal, LD50, Rabbit: > 14000 mg/kg

Method: OECD 402

inhalative (vapours), LC50, Rat: > 21 mg/l (4 h)

Method: OECD 403

Hexamethylene diisocyanate, oligomers

oral, LD50, Rat: > 5000 mg/kg

Method: OECD 423

dermal, LD50, Rat: > 2000 mg/kg

Method: OECD 402

dermal, LD50, Rabbit: > 2000 mg/kg

Method: OECD 402

2,4-diisocyanato-1-methylbenzene

inhalative (vapours), LC50, Rat: > 3003 mg/l (4 h)

Skin corrosion/irritation; Serious eye damage/eye irritation

Causes serious eye irritation.

butanone

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Skin, Rabbit
Method: OECD 404
mild irritant.

eyes, Rabbit
Method: OECD 405
strongly irritant.

ethyl acetate
Skin, Rabbit
Not an irritant.

n-butyl acetate
Skin, Rabbit
Method: OECD 404
Not an irritant.
eyes, Rabbit
Method: OECD 405
mild irritant.

Hexamethylene diisocyanate, oligomers
Skin, Rabbit
Method: OECD 404
mild irritant.
eyes, Rabbit
Method: OECD 405
mild irritant.

Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

:

May cause an allergic skin reaction.

:

ethyl acetate
Skin, Guinea pig:
Method: OECD 406
not sensitising.

n-butyl acetate
Skin, Guinea pig:
Method: OECD 406
not sensitising.

Hexamethylene diisocyanate, oligomers
Skin, Guinea pig:
Method: OECD 406
May cause an allergic skin reaction.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

butanone
Germ cell mutagenicity
Ames test negative.

n-butyl acetate
Germ cell mutagenicity
Ames test negative.

Hexamethylene diisocyanate, oligomers
Germ cell mutagenicity
non-mutagen (Ames test)

STOT-single exposure; STOT-repeated exposure

May cause drowsiness or dizziness.

:

Aspiration hazard

Based on available data, the classification criteria are not met.

Practical experience/human evidence

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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.

SECTION 12: Ecological information

Classification according to Regulation (EC) No 1272/2008 [CLP]
There is no information available on the preparation itself.
Do not allow to enter into surface water or drains.

12.1. Toxicity

butanone

Fish toxicity, LC50, Pimephales promelas: 1656 mg/l (96 h)
Method: OECD 203
Daphnia toxicity, EC50, Daphnia magna (Big water flea): > 100 mg/l (48 h)
Method: OECD 202
Algae toxicity, ErC50, Pseudokirchneriella subcapitata: 1972 mg/l (72 h)
Method: OECD 201

ethyl acetate

Fish toxicity, LC50, Pimephales promelas (fathead minnow): 230 mg/l (96 h)
Daphnia toxicity, EC50, Daphnia magna (Big water flea): 610 mg/l (48 h)

n-butyl acetate

Algae toxicity, ErC50, Desmodesmus subspicatus.: 647,7 mg/l (72 h)

Hexamethylene diisocyanate, oligomers

Fish toxicity, LC50, Brachydanio rerio (zebra-fish): > 100 mg/l (96 h)
Daphnia toxicity, EC50, Daphnia magna (Big water flea): > 100 mg/l (48 h)
Algae toxicity, ErC50, Scenedesmus subspicatus: > 100 mg/l (72 h)

Long-term Ecotoxicity

4-methyl-m-phenylene diisocyanate

Daphnia toxicity, NOEC, Daphnia magna: 1,1 mg/l (21 D)

n-butyl acetate

Algae toxicity, NOEC, Desmodesmus subspicatus.: 200 mg/l
Inhibition of growth rate.

12.2. Persistence and degradability

butanone

Biodegradation: 98 % (28 d)
Method: OECD 301D

ethyl acetate

Biodegradation: 79 % (20 d)
Method: OECD 301D / EEC 92/69 annex V, C.4-E

n-butyl acetate

Biodegradation: 83 % (28 d)
Method: OECD 301D
Readily biodegradable.

12.3. Bioaccumulative potential

ethyl acetate

Partition coefficient: n-octanol/water: 0,73

n-butyl acetate

Partition coefficient: n-octanol/water: 2,3

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Method: OECD 117

Bioconcentration factor (BCF)

Toxicological data are not available.

12.4. **Mobility in soil**

Toxicological data are not 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. **Other adverse effects**

Isocyanate reacts with water at the interface forming CO₂ and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by watersoluble solvents. Previous experience shows that polyurea is inert and non-degradable.

SECTION 13: Disposal considerations

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.

Do not dispose of with domestic refuse.

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

Appropriate disposal / Package Recommendation

Recommendation

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

Empty container completely.

Do not perforate, cut up or weld uncleaned container.

Residues may present a risk of explosion.

SECTION 14: Transport information

14.1. **UN number**

UN 1263

14.2. **UN proper shipping name**

Land transport (ADR/RID):

Paint related material

Sea transport (IMDG):

PAINT RELATED MATERIAL

Air transport (ICAO-TI / IATA-DGR):

Paint related material

14.3. **Transport hazard class(es)**

3

14.4. **Packing group**

II

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

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Air transport (ICAO-TI / IATA-DGR)

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

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

VOC-value (in g/L): 634,352

National regulations

Restrictions of occupation

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

15.2. Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Full text of classification in section 3:

Flam. Liq. 2 / H225	Flammable liquids	Highly flammable liquid and vapour.
Eye Irrit. 2 / H319	Serious eye damage/eye irritation	Causes serious eye irritation.
STOT SE 3 / H336	STOT-single exposure	May cause drowsiness or dizziness.
Skin Sens. 1 / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.
Flam. Liq. 3 / H226	Flammable liquids	Flammable liquid and vapour.
Acute Tox. 4 / H332	Acute toxicity (inhalative)	Harmful if inhaled.
STOT SE 3 / H335	STOT-single exposure	May cause respiratory irritation.
Acute Tox. 4 / H302	Acute toxicity (oral)	Harmful if swallowed.
Acute Tox. 1 / H330	Acute toxicity (inhalative)	Fatal if inhaled.
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.
Carc. 2 / H351	Carcinogenicity	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
Aquatic Chronic 3 / H412	Hazardous to the aquatic environment	Harmful to aquatic life with long lasting effects.

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
	Maximum workplace concentration
MARPOL	Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OECD	Organisation for Economic Cooperation and Development
PBT	persistent, bioaccumulative, toxic

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PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
UN	United Nations

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 chapter 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