

# ULTRITHANE 21/31 HARDENER

Safety Data Sheet dated 11/03/2015

version 11.0 dated 4/11/2020

This safety data sheet has been completely updated in compliance to Regulation 2015/830/EU.

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## 1. PRODUCT AND COMPANY IDENTIFICATION

1.01 Product Code	Ultrithane 21-31 Fast Hardener
1.02 Manufacturer/Supplier	Ultrimax Coatings Ltd
1.03 Address	Shaw Lane Industrial Estate, Ogden Road, Doncaster, DN2 4SE
1.04 Contact	www.ultrimaxcoatings.co.uk
1.05 Phone Number	01302 856666
1.06 Fax Number	01302 571510
1.7 Emergency Phone Number	01302 856666

## 2. HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)

Flam. Liq. 2, H225 Highly flammable liquid and vapour.  
Acute Tox. 4, H332 Harmful if inhaled.  
Skin Sens. 1, H317 May cause an allergic skin reaction.  
STOT SE 3, H335 May cause respiratory irritation.  
STOT SE 3, H336 May cause drowsiness or dizziness.  
Adverse physicochemical, human health and environmental effects:  
No other hazards



### 2.2. Label elements

Hazard pictograms:

Danger

Hazard statements:

H225 Highly 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.

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/clothing and eye/face protection.  
P370+P378 In case of fire, use a foam fire extinguisher to extinguish.  
P403+P235 Store in a well-ventilated place. Keep cool.

Special Provisions:

EUH204 Contains isocyanates. May produce an allergic reaction.  
EUH208 Contains hexamethylene-di-isocyanate. May produce an allergic reaction.  
EUH208 Contains Ethylene bis(3-mercaptopropionate). May produce an allergic reaction.

Contains

Hexamethylene diisocyanate, oligomerisation product (isocyanurate type)  
isobutyl acetate  
2-methoxy-1-methylethyl acetate  
Special provisions according to Annex XVII of REACH and subsequent amendments:  
None

### 2.3. Other hazards

vPvB Substances:

None - PBT Substances: None

Other Hazards:

No other hazards

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

N.A.

### 3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

>= 50% - < 60% Hexamethylene diisocyanate, oligomerisation product (isocyanurate type)

REACH No.: 01-2119485796-17-0004, CAS: 28182-81-2, EC: 931-274-8

Acute Tox. 4 H332 Harmful if inhaled.

STOT SE 3 H335 May cause respiratory irritation.

Skin Sens. 1,1A,1B H317 May cause an allergic skin reaction.

>= 30% - < 40% isobutyl acetate

REACH No.: 01-2119488971-22-XXXX, Index number: 607-026-00-7, CAS: 110-19-0, EC: 203-745-1

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

STOT SE 3 H336 May cause drowsiness or dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

>= 1% - < 2.5% 2-methoxy-1-methylethyl acetate

REACH No.: 01-2119475791-29-XXXX, Index number: 607-195-00-7, CAS: 108-65-6, EC: 203-603-9

Flam. Liq. 3 H226 Flammable liquid and vapour.

STOT SE 3 H336 May cause drowsiness or dizziness.

900 ppm n-butyl acetate

REACH No.: 01-2119485493-29-XXXX, Index number: 607-025-00-1, CAS: 123-86-4, EC: 204-658-1

Flam. Liq. 3 H226 Flammable liquid and vapour.

STOT SE 3 H336 May cause drowsiness or dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

540 ppm hexamethylene-di-isocyanate

REACH No.: 01-2119457571-37-XXXX, Index number: 615-011-00-1, CAS: 822-06-0, EC: 212-485-8

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Skin Irrit. 2 H315 Causes skin irritation.

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Acute Tox. 2 H330 Fatal if inhaled.

285 ppm Ethylene bis(3-mercaptopropionate)

REACH No.: 01-2120775145-52-0000, CAS: 22504-50-3, EC: 245-044-3

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1A H317 May cause an allergic skin reaction.

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

### Other information

N.A.

## 4. FIRST AID MEASURES

### 4.1. Description of first aid measures

- In case of skin contact: Immediately take off all contaminated clothing.  
Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.  
Wash thoroughly the body (shower or bath).  
Remove contaminated clothing immediately and dispose off safely.
- In case of eyes contact: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
In case of Ingestion:  
Do NOT induce vomiting.
- In case of Inhalation: If breathing is irregular or stopped, administer artificial respiration.  
In case of inhalation, consult a doctor immediately and show him packing or label.

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

None

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment: None

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## 5. FIRE FIGHTING MEASURES

### 5.1. Extinguishing media

Suitable extinguishing media:  
In case of fire, use a foam fire extinguisher to extinguish.  
Extinguishing media which must not be used for safety reasons:  
None in particular.

### 5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.  
Burning produces heavy smoke.

### 5.3. Advice for firefighters

Use suitable breathing apparatus .  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Move undamaged containers from immediate hazard area if it can be done safely.

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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:  
Wear personal protection equipment.  
Remove all sources of ignition.  
Wear breathing apparatus if exposed to vapours/dusts/aerosols.  
Provide adequate ventilation.  
Use appropriate respiratory protection.  
See protective measures under point 7 and 8.  
For emergency responders:  
Wear personal protection equipment.

### 6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.  
Retain contaminated washing water and dispose it.  
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.  
Suitable material for taking up: absorbing material, organic, sand

### 6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

### 6.4. Reference to other sections

See also section 8 and 13

## 7. HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.  
Use localized ventilation system.  
Don't use empty container before they have been cleaned.  
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.  
See also section 8 for recommended protective equipment.  
Advice on general occupational hygiene:  
Contaminated clothing should be changed before entering eating areas.  
Do not eat or drink while working.

### 7.2. Conditions for safe storage, including any incompatibilities

Always keep in a well ventilated place.  
Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.  
Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.  
Keep away from food, drink and feed.  
Incompatible materials:  
None in particular.  
Instructions as regards storage premises:  
Cool and adequately ventilated.  
Provisions related to directive EU 2012/18 (Seveso III):  
Seveso III category according to Annex 1, part 1

Product belongs to category:	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
P5c	5000	50000

### 7.3. Specific end use(s)

None in particular

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

Hexamethylene diisocyanate, oligomerisation product (isocyanurate type) - CAS: 28182-81-2

TLV - STEL: 1 mg/m<sup>3</sup>

isobutyl acetate - CAS: 110-19-0

ACGIH - TWA(8h): 50 ppm - STEL: 150 ppm - Notes: Eye and URT irr

GVI - TWA(8h): 724 mg/m<sup>3</sup>, 150 ppm - STEL: 903 mg/m<sup>3</sup>, 187 ppm - Notes: HR - CROAZIA

VLA - TWA(8h): 724 mg/m<sup>3</sup>, 150 ppm - Notes: ES - SPAGNA

TLV - TWA(8h): 950 mg/m<sup>3</sup> - STEL: 1200 mg/m<sup>3</sup> - Notes: CZ - REPUBBLICA CECA

National - TWA(8h): 300 mg/m<sup>3</sup>, 62 ppm - STEL: 600 mg/m<sup>3</sup>, 124 ppm - Notes: DE - GERMANIA

VLEP - TWA(8h): 710 mg/m<sup>3</sup>, 150 ppm - STEL: 940 mg/m<sup>3</sup>, 200 ppm - Notes: FR - FRANCIA

EU - TWA(8h): 241 mg/m<sup>3</sup>, 50 ppm - STEL: 723 mg/m<sup>3</sup>, 150 ppm

MAK - TWA(8h): 480 mg/m<sup>3</sup>, 100 ppm - STEL: 960 mg/m<sup>3</sup>, 200 ppm - Notes: CH - SUVA (Svizzera), SSc

2-methoxy-1-methylethyl acetate - CAS: 108-65-6

EU - TWA(8h): 275 mg/m<sup>3</sup>, 50 ppm - STEL: 550 mg/m<sup>3</sup>, 100 ppm - Notes: Skin

MAK - TWA(8h): 270 mg/m<sup>3</sup>, 50 ppm - STEL: 270 mg/m<sup>3</sup>, 50 ppm - Notes: DE - GERMANIA

National - TWA(8h): 274 mg/m<sup>3</sup>, 50 ppm - STEL: 548 mg/m<sup>3</sup>, 100 ppm - Notes: GBR - REGNO UNITO

MAK - TWA(8h): 275 mg/m<sup>3</sup>, 50 ppm - STEL: 275 mg/m<sup>3</sup>, 50 ppm - Notes: CH - SUVA (Svizzera), SSc

n-butyl acetate - CAS: 123-86-4

ACGIH - TWA(8h): 50 ppm - STEL(15min): 150 ppm - Notes: Eye and URT irr

GVI - TWA(8h): 724 mg/m<sup>3</sup>, 150 ppm - STEL(15min): 966 mg/m<sup>3</sup>, 200 ppm - Notes: HR -CROAZIA

VLA - TWA(8h): 724 mg/m<sup>3</sup>, 150 ppm - STEL(15min): 965 mg/m<sup>3</sup>, 200 ppm - Notes: ES -SPAGNA

TLV - TWA(8h): 950 mg/m<sup>3</sup> - STEL(15min): 1200 mg/m<sup>3</sup> - Notes: CZ - REP. CECA

MAK - TWA(8h): 480 mg/m<sup>3</sup>, 100 ppm - STEL(15min): 960 mg/m<sup>3</sup>, 200 ppm - Notes: DE- GERMANIA

VLEP - TWA(8h): 710 mg/m<sup>3</sup>, 150 ppm - STEL(15min): 940 mg/m<sup>3</sup>, 200 ppm - Notes: FR - FRANCIA

National - TWA(8h): 724 mg/m<sup>3</sup>, 150 ppm - STEL(15min): 966 mg/m<sup>3</sup>, 200 ppm - Notes:

UK - REGNO UNITO

EU - TWA(8h): 241 mg/m<sup>3</sup>, 50 ppm - STEL(15min): 723 mg/m<sup>3</sup>, 150 ppm

MAK - TWA(8h): 480 mg/m<sup>3</sup>, 100 ppm - STEL(15min): 960 mg/m<sup>3</sup>, 200 ppm - Notes: CH

- SUVA (Svizzera), SSc

hexamethylene-di-isocyanate - CAS: 822-06-0

ACGIH - TWA(8h): 0.005 ppm - Notes: URT irr, resp sens

### DNEL Exposure Limit Values

Hexamethylene diisocyanate, oligomerisation product (isocyanurate type) - CAS: 28182-81-2

Worker Professional: 1 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term, local effects

Worker Professional: 0.5 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, local effects

isobutyl acetate - CAS: 110-19-0

Worker Industry: 300 mg/m<sup>3</sup> - Worker Professional: 300 mg/m<sup>3</sup> - Consumer: 35.7 mg/m<sup>3</sup>

- Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Worker Industry: 600 mg/m<sup>3</sup> - Worker Professional: 600 mg/m<sup>3</sup> - Consumer: 300 mg/m<sup>3</sup> -

Exposure: Human Inhalation - Frequency: Short Term, systemic effects

Worker Industry: 10 mg/m<sup>3</sup> - Worker Professional: 10 mg/m<sup>3</sup> - Exposure: Human Dermal -

Frequency: Long Term, systemic effects

Worker Professional: 10 mg/kg bw/d - Exposure: Human Dermal - Frequency: Short Term, systemic effects

Consumer: 5 mg/kg bw/d - Exposure: Human Oral - Frequency: Long Term, systemic effects

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 2-methoxy-1-methylethyl acetate - CAS: 108-65-6

Consumer: 36 mg/kg bw/d - Exposure: Human Oral - Frequency: Long Term, systemic effects

Worker Industry: 275 mg/m<sup>3</sup> - Worker Professional: 275 mg/m<sup>3</sup> - Consumer: 33 mg/m<sup>3</sup> -

Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Worker Industry: 796 mg/kg bw/d - Worker Professional: 796 mg/kg bw/d - Consumer: 320

mg/kg bw/d - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Worker Industry: 550 mg/m<sup>3</sup> - Worker Professional: 550 mg/m<sup>3</sup> - Exposure: Human

Inhalation - Frequency: Short Term, local effects

Consumer: 500 mg/kg bw/d - Exposure: Human Oral - Frequency: Short Term, systemic effects

### n-butyl acetate - CAS: 123-86-4

Worker Industry: 600 mg/m<sup>3</sup> - Worker Professional: 600 mg/m<sup>3</sup> - Consumer: 300 mg/m<sup>3</sup> -

Exposure: Human Inhalation - Frequency: Short Term, local effects

Worker Industry: 300 mg/m<sup>3</sup> - Worker Professional: 300 mg/m<sup>3</sup> - Consumer: 35.7 mg/m<sup>3</sup>

- Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Worker Industry: 11 mg/kg bw/d - Worker Professional: 11 mg/kg bw/d - Consumer: 6

mg/kg bw/d - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Consumer: 2 mg/kg bw/d - Exposure: Human Oral - Frequency: Long Term, systemic effects

### hexamethylene-di-isocyanate - CAS: 822-06-0

Worker Industry: 0.07 mg/m<sup>3</sup> - Worker Professional: 0.07 mg/m<sup>3</sup> - Exposure: Human

Inhalation - Frequency: Short Term, local effects

Worker Industry: 0.035 mg/m<sup>3</sup> - Worker Professional: 0.07 mg/m<sup>3</sup> - Exposure: Human

Inhalation - Frequency: Long Term, local effects

### PNEC Exposure Limit Values

isobutyl acetate - CAS: 110-19-0

Target: Freshwater sediments - Value: 0.877 mg/kg

Target: Marine water sediments - Value: 0.0877 mg/kg

Target: Microorganisms in sewage treatments - Value: 200 mg/l

Target: Fresh Water - Value: 0.17 mg/l

Target: Marine water - Value: 0.017 mg/l

### 2-methoxy-1-methylethyl acetate - CAS: 108-65-6

Target: Fresh Water - Value: 0.635 mg/l

Target: Freshwater sediments - Value: 3.29 mg/kg

Target: Marine water sediments - Value: 0.329 mg/kg

Target: Microorganisms in sewage treatments - Value: 100 mg/l

### n-butyl acetate - CAS: 123-86-4

Target: Soil (agricultural) - Value: 0.09 mg/kg

Target: Fresh Water - Value: 0.18 mg/l

Target: Marine water - Value: 0.018 mg/l

Target: Freshwater sediments - Value: 0.981 mg/kg

Target: Marine water sediments - Value: 0.098 mg/kg

### hexamethylene-di-isocyanate - CAS: 822-06-0

Target: Fresh Water - Value: 0.0774 mg/l

Target: Marine water - Value: 0.0774 mg/l

Target: Freshwater sediments - Value: 0.01334 mg/kg

Target: Soil (agricultural) - Value: 0.0026 mg/kg

Target: Microorganisms in sewage treatments - Value: 8.42 mg/l

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.2. Exposure controls

Eye protection:

Eye glasses with side protection.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use chemical resistant protective gloves (for chemicals and micro-organisms) complying with EN374 regulation, which guarantee total protection.

For the definitive choice of material for work gloves, consider compatibility, degradation, breaking time and permeation.

The gloves have a wear time that depends on the length and on the use.

There is no material or combination of gloves materials that guarantees unlimited resistance to any single chemical or chemical compound.

Observe the instructions and information provided by the gloves manufacturer regarding use, storage, maintenance and replacement.

Gloves should be replaced regularly and whenever there are signs of damage.

Always make sure that the gloves are free from defects and that they are properly preserved and used.

Performance or effectiveness of glove can be reduced by physical/chemical damage and by poor maintenance.

Protective creams can increase the protective screen on the exposed areas of the skin, but should not be applied once the skin has already been exposed. After contact, rinse the skin thoroughly.

When frequent or prolonged contact is to be expected, the use of class 6 protective gloves

(permeation time > 480 minutes according to EN3740-3) is recommended.

In case of occasional contact it is recommended the use of class 2 protective gloves (permeation time > 30 minutes according to EN 3740-3).

The user is required to evaluate which type of gloves best suits, basing on their use conditions and on the corresponding combination of risks.

**NB:** The choice of gloves must also take into account other specific job-related work, such as the presence of other chemicals, physical hazards and possible allergic reactions to the material used to manufacture the glove, so consult your supplier.

### Respiratory protection:

Use an adequate respiratory device

The choice of respirator must be based on known or expected exposure levels, on product risks and on safe operating limits of the selected respirator.

If the employees are exposed to concentrations above the exposure limit, we recommend wearing a Type A filter mask, whose class (1, 2 or 3) should be chosen in relation to the limit concentration of use (standard EN 14387).

In the case of gases or vapors of different nature, combine type filters (DIN EN 141) should be provided.

The use of respiratory protection means is necessary if the technical measures taken are not sufficient to limit the exposure of workers to the threshold values taken into account.

Thermal Hazards:

None

Environmental exposure controls:

Emissions from production processes, including those from ventilation equipment, should be checked for compliance with environmental protection regulations.

Appropriate engineering controls:

None

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

Properties	Value	Method	Notes
Appearance and colour:	Liquid, colourless	--	--
Odour:	Characteristic	--	--
Odour threshold:	N.A.	--	--
pH:	N.A.	--	--
Melting point / freezing point:	N.A.	--	--
Initial boiling point and boiling range:	>35°C	--	--
Flash point:	19°C	EN ISO 3679	--
Evaporation rate:	N.A.	--	--
Solid/gas flammability:	N.A.	--	--
Upper/lower flammability or explosive limits:	LEL 1.3% - UEL 10.5% v/v (isobutyl acetate)	Extrapolation from Raw Material SDS	--
Vapour pressure:	N.A.	--	--
Vapour density:	> 1	--	--
Relative density:	1,020 g/cm <sup>3</sup> - 20°C	ISO 2811	--
Solubility in water:	insoluble	--	--
Solubility in oil:	N.A.	--	--
Partition coefficient (noctanol/water):	N.A.	--	--
Auto-ignition temperature:	> 350°C	--	--
Decomposition temperature:	N.A.	--	--
Viscosity:	30-40" FC2	ASTM D 1200	--
Kinematic viscosity:	<= 14 mm <sup>2</sup> /s (40°C)	--	--
Explosive properties:	N.A.	--	--
Oxidizing properties:	N.A.	--	--

### 9.2. Other information

Properties	Value	Method	Notes
Miscibility:	N.A.	--	--
Fat Solubility:	N.A.	--	--
Conductivity:	N.A.	--	--
Substance Groups relevant properties	N.A.	--	--



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## 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

Stable under normal conditions

### 10.2. Chemical stability

Stable under normal conditions

### 10.3. Possibility of hazardous reactions

None

### 10.4. Conditions to avoid

Stable under normal conditions.

### 10.5. Incompatible materials

Avoid contact with combustible materials. The product could catch fire.

### 10.6. Hazardous decomposition products

None.

## 11. TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Toxicological information of the product:

CATALIZZATORE PS5 (L0025)

a) acute toxicity

The product is classified: Acute Tox. 4 H332

b) skin corrosion/irritation

Not classified

Based on available data, the classification criteria are not met

c) serious eye damage/irritation

Not classified

Based on available data, the classification criteria are not met

d) respiratory or skin sensitisation

The product is classified: Skin Sens. 1 H317

e) germ cell mutagenicity

Not classified

Based on available data, the classification criteria are not met

f) carcinogenicity

Not classified

Based on available data, the classification criteria are not met

g) reproductive toxicity

Not classified

Based on available data, the classification criteria are not met

h) STOT-single exposure

The product is classified: STOT SE 3 H335;STOT SE 3 H336

i) STOT-repeated exposure

Not classified

Based on available data, the classification criteria are not met

j) aspiration hazard

Not classified

Based on available data, the classification criteria are not met

## 11. TOXICOLOGICAL INFORMATION

### Toxicological information of the main substances found in the product:

Hexamethylene diisocyanate, oligomerisation product (isocyanurate type) - CAS: 28182-81-2

a) acute toxicity:

Test: LC50 - Route: Inhalation - Species: Rat = 0.390 mg/l - Duration: 4h - Source: OECD  
403 (female)

isobutyl acetate - CAS: 110-19-0

a) acute toxicity:

Test: LD50 - Route: Skin - Species: Rabbit > 17400 mg/kg bw/day  
Test: LD50 - Route: Oral - Species: Rat = 13413 mg/kg bw/day  
Test: LC50 - Route: Inhalation - Species: Rat > 23.4 mg/l - Duration: 4h

2-methoxy-1-methylethyl acetate - CAS: 108-65-6

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg  
Test: LD50 - Route: Skin - Species: Rabbit > 5000 mg/kg  
Test: LC50 - Route: Inhalation - Species: Rat > 23.5 mg/l

n-butyl acetate - CAS: 123-86-4

a) acute toxicity:

Test: LC50 - Route: Inhalation - Species: Rat > 21.1 mg/l - Duration: 4h - Source: Metodo: OCSE 403  
Test: LD50 - Route: Oral - Species: Rat = 10.736 mg/kg - Source: (female)  
Test: LD50 - Route: Skin - Species: Rabbit > 14000 mg/kg - Source: Metodo: OCSE 402

Ethylene bis(3-mercaptopropionate) - CAS: 22504-50-3

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat 1000-2000 mg/kg

## 12. ECOLOGICAL INFORMATION

### 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

CATALIZZATORE PS5 (L0025)

Not classified for environmental hazards

Based on available data, the classification criteria are not met isobutyl acetate - CAS: 110-19-0

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 17 mg/l - Duration h: 96  
Endpoint: EC50 - Species: Daphnia = 25 mg/l - Duration h: 48  
Endpoint: EC50 - Species: Algae = 370 mg/l - Duration h: 72

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Daphnia = 23 mg/l - Notes: 21 giorni acqua dolce - Metodo OCSE 211 - Valore sperimentale

2-methoxy-1-methylethyl acetate - CAS: 108-65-6

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 134 mg/l - Duration h: 96  
Endpoint: EC50 - Species: Algae > 1000 mg/l - Duration h: 72  
Endpoint: EC50 - Species: Daphnia > 500 mg/l - Duration h: 48  
Endpoint: NOEC - Species: Daphnia > 100 mg/l - Notes: 21 d

n-butyl acetate - CAS: 123-86-4

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 18 mg/l - Duration h: 96 - Notes: Metodo: OECD 203  
Endpoint: EC50 - Species: Algae = 675 mg/l - Duration h: 72  
Endpoint: EC50 - Species: Daphnia = 44 mg/l - Duration h: 48

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Algae = 200 mg/l - Duration h: 72 - Notes: Acqua dolce (non salina) Valore sperimentale

Ethylene bis(3-mercaptopropionate) - CAS: 22504-50-3

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 4.85 mg/l - Duration h: 96

## 12. ECOLOGICAL INFORMATION

### 12.2. Persistence and degradability

None

isobutyl acetate - CAS: 110-19-0

Biodegradability: Readily biodegradable

2-methoxy-1-methylethyl acetate - CAS: 108-65-6

Biodegradability: Readily biodegradable

n-butyl acetate - CAS: 123-86-4

Biodegradability: Readily biodegradable

Ethylene bis(3-mercaptopropionate) - CAS: 22504-50-3

Biodegradability: Readily biodegradable

### 12.3. Bioaccumulative potential

isobutyl acetate - CAS: 110-19-0

Test: Kow - Partition coefficient 2.3

Test: BCF - Bioconcentration factor 15.3

2-methoxy-1-methylethyl acetate - CAS: 108-65-6

Bioaccumulation: Not bioaccumulative

n-butyl acetate - CAS: 123-86-4

Test: BCF - Bioconcentration factor 15.3

Test: Kow - Partition coefficient 2.3 - Notes: n-ottanolo/acqua

Ethylene bis(3-mercaptopropionate) - CAS: 22504-50-3

Test: BCF - Bioconcentration factor 6.03

Test: Kow - Partition coefficient 1.94

### 12.4. Mobility in soil

N.A.

### 12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

### 12.6. Other adverse effects

None

## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

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## 14. TRANSPORT INFORMATION

### 14.1. UN number

ADR-UN Number: 1263  
IATA-UN Number: 1263  
IMDG-UN Number: 1263



### 14.2. UN proper shipping name

ADR-Shipping Name: PAINT RELATED MATERIAL  
IATA-Shipping Name: PAINT RELATED MATERIAL  
IMDG-Shipping Name: PAINT RELATED MATERIAL

### 14.3. Transport hazard class(es)

ADR-Class: 3  
ADR - Hazard identification number: 33  
IATA-Class: 3  
IATA-Label: 3  
IMDG-Class: 3

### 14.4. Packing group

ADR-Packing Group: II  
IATA-Packing group: II  
IMDG-Packing group: II

### 14.5. Environmental hazards

ADR-Environmental Pollutant: No  
IMDG-Marine pollutant: No

### 14.6. Special precautions for user

ADR-Subsidiary hazards: -  
ADR-S.P.: 163 367 640D 650  
ADR-Transport category (Tunnel restriction code): 2 (D/E)  
IATA-Passenger Aircraft: 353  
IATA-Subsidiary hazards: -  
IATA-Cargo Aircraft: 364  
IATA-S.P.: A3 A72 A192  
IATA-ERG: 3L  
IMDG-EmS: F-E , S-E  
IMDG-Subsidiary hazards: -  
IMDG-Stowage and handling: Category B  
IMDG-Segregation: -

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

## 15. REGULATORY INFORMATION

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

Dir. 98/24/EC (Risks related to chemical agents at work)  
Dir. 2000/39/EC (Occupational exposure limit values)  
Regulation (EC) n. 1907/2006 (REACH)  
Regulation (EC) n. 1272/2008 (CLP)  
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013  
Regulation (EU) 2015/830  
Regulation (EU) n. 286/2011 (ATP 2 CLP)  
Regulation (EU) n. 618/2012 (ATP 3 CLP)  
Regulation (EU) n. 487/2013 (ATP 4 CLP)  
Regulation (EU) n. 944/2013 (ATP 5 CLP)  
Regulation (EU) n. 605/2014 (ATP 6 CLP)  
Regulation (EU) n. 2015/1221 (ATP 7 CLP)  
Regulation (EU) n. 2016/918 (ATP 8 CLP)  
Regulation (EU) n. 2016/1179 (ATP 9 CLP)  
Regulation (EU) n. 2017/776 (ATP 10 CLP)  
Regulation (EU) n. 2018/669 (ATP 11 CLP)  
Regulation (EU) n. 2018/1480 (ATP 13 CLP)  
Regulation (EU) n. 2019/521 (ATP 12 CLP)  
Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:  
Restrictions related to the product:  
Restriction 3  
Restriction 40  
Restrictions related to the substances contained:  
Restriction 30  
Volatile Organic compounds - VOCs = 39.94 %  
Volatile Organic compounds - VOCs = 408.43 g/l  
Volatile CMR substances = 0.00 %  
Halogenated VOCs which are assigned the risk phrase R40 = 0.00 %  
Organic Carbon - C = 0.25  
Where applicable, refer to the following regulatory provisions :  
Directive 2012/18/EU (Seveso III)  
Regulation (EC) nr 648/2004 (detergents).  
Dir. 2004/42/EC (VOC directive)  
Provisions related to directive EU 2012/18 (Seveso III):  
Seveso III category according to Annex 1, part 1  
Product belongs to category: P5c

### 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.  
Substances for which a Chemical Safety Assessment has been carried out:  
2-methoxy-1-methylethyl acetate

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## 16. OTHER INFORMATION

Hazard class and hazard category	Code	Description
Flam. Liq. 2	2.6/2	Flammable liquid, Category 2
Flam. Liq. 3	2.6/3	Flammable liquid, Category 3
Acute Tox. 2	3.1/2/Inhal	Acute toxicity (inhalation), Category 2
Acute Tox. 4	3.1/4/Dermal	Acute toxicity (dermal), Category 4
Acute Tox. 4	3.1/4/Inhal	Acute toxicity (inhalation), Category 4
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
Resp. Sens. 1	3.4.1/1	Respiratory Sensitisation, Category 1
Skin Sens. 1	3.4.2/1	Skin Sensitisation, Category 1
Skin Sens. 1,1A,1B	3.4.2/1-1A-1B	Skin Sensitisation, Category 1,1A,1B
Skin Sens. 1A	3.4.2/1A	Skin Sensitisation, Category 1A
STOT SE 3 Category 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 1	4.1/C1	Chronic (long term) aquatic hazard, category 1

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Paragraphs modified from the previous revision:

- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 14: Transport information
- SECTION 15: Regulatory information
- SECTION 16: Other information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC)

### 1272/2008 [CLP]:

#### Classification according to Regulation (EC) Nr. 1272/2008

Flam. Liq. 2, H225  
Acute Tox. 4, H332  
Skin Sens. 1, H317  
STOT SE 3, H335  
STOT SE 3, H336

#### Classification procedure

On basis of test data  
Calculation method  
Calculation method  
Calculation method  
Calculation method

## 16. OTHER INFORMATION

This document was prepared by a competent person who has received appropriate training.

### Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre,  
Commission of the European Communities  
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van  
Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE:	Acute Toxicity Estimate
ATEmix:	Acute toxicity Estimate (Mixtures)
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
N.A.:	Not defined/ Not available
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.