

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

1.1. Product identifier

Product name Top Pro Heat Coat part A
UFI: MQ30-Q066-G008-336H

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

Intended use Oligomerization product of hexamethylenediisocyanate. Part of two-component system for domes labels. For professional and industrial use only
Identified uses Exposure scenario
Nr. Reg. 01-2119488934-20
Nr. Reg. 01-2119488177-26

Industrial end use ES2
Professional end use ES3

1.3. Details of the supplier of the safety data sheet

Name Resin pro S.r.l.
Full address Via 25 aprile z.i. snc
District and Country 19021 Arcola (SP) ITALIA
Tel. +39 0187 955108

e-mail address of the competent person responsible for the Safety Data Sheet info@resinpro.it

1.4. Emergency telephone number

For urgent inquiries refer to Use NHS 111 online (111.nhs.uk) or call 111 if you think you need medical help right now (<https://www.nhs.uk/nhs-services/urgent-and-emergency-care-services/when-to-use-111/>) National Poisons Information Service (Birmingham Unit), ZIP/Postcode: B187QH, United Kingdom, Emergency number: 844 892 0111, (H24)

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Acute toxicity, category 4	H332	Harmful if inhaled.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:





Signal words: Warning

Hazard statements:

H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H317 May cause an allergic skin reaction.

Precautionary statements:

P102 keep out of reach of children
P103 read label before use
P404 store in a closed container
P405 store locked up
P501 dispose of contents / container in accordance with regulations on hazardous waste or packaging and packaging waste respectively
P261 Avoid breathing vapours.
P280 Wear protective gloves / clothing.
P304+P340 IF INHALED: remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTRE / doctor 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.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Contains: HDI oligomers, iminooxadiazindione
HDI oligomers, uretdione

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	Conc. %	Classification 1272/2008 (CLP)
HDI oligomers, iminooxadiazindione		
CAS 28182-81-2	70 ≤ x ≤ 80	Acute Tox. 4 H332, STOT SE 3 H335, Skin Sens. 1 H317
EC 500-060-2		
INDEX -		
List number 931-297-3		
Reg. no. 01-2119488934-20		
HDI oligomers, uretdione		
CAS 28182-81-2	20 ≤ x ≤ 30	Acute Tox. 3 H331, STOT SE 3 H335, Skin Sens. 1 H317
EC 500-060-2		
INDEX -		
List number 931-288-4		
Reg. no. 01-2119488177-26		

This contains: Hexamethylene-1,6-diisocyanate

Concentration [wt.-%]: ≤ 0,26

Index-No.: 615-011-00-1

EC-No.: 212-485-8

REACH Registration Number: 01-2119457571-37

CAS-No.: 822-06-0

Classification (1272/2008/CE): Acute Tox. 4 Oral H302 Acute Tox. 1 Inhalative H330 Skin Irrit. 2 H315 Eye Irrit. 2 H319 Sens. Resp. 1 H334 Skin Sens. 1 H317 STOT SE 3 H335

Specific threshold concentration (GHS):

Sens. Resp. 1 H334 >= 0,5 %
Skin Sens. 1 H317 >= 0,5 %

Exposure scenarios are not required for the impurities of the substance according to article 3(1) of Regulation (EC) No 1907/2006 mentioned above.

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.

INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

PROTECTIVE MEASURES FOR THE FIRST RESCUE WORKERS: for PPE (personal protection equipment) required for first aid refer to section 8.2 of this safety data sheet.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

High volume water jet

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen, isocyanate vapors and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard. Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Remove mechanically; cover the remainder with wet, absorbent material (e.g. sawdust, chemical binder based on calcium silicate hydrate, sand). After approx. one hour transfer to waste container and do not seal (evolution of CO₂). Keep damp in a safe ventilated area for several days.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Provide sufficient air exchange and/or exhaust in work rooms. Exhaust ventilation necessary if product is sprayed. The threshold limit values noted in Chapter 8 must be monitored. In all areas where isocyanate aerosols and/or vapor concentrations are produced in elevated concentrations, exhaust ventilation must be provided in such a way that the workplace exposure limits (WEL) is not exceeded. The air should be drawn away from the personnel handling the product

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

No use other than as indicated in section 1.2 of this safety data sheet

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

TLV-ACGIH

ACGIH 2020

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	ppm	
TLV-ACGIH			0,005			Hexamethylene-di-isocyanate (CAS 822-06-0)

HDI oligomers, iminooxadiazindione

Predicted no-effect concentration - PNEC

Normal value in fresh water		0,199		mg/l
Normal value in marine water		0,0199		mg/l
Normal value for fresh water sediment		44551		mg/kg dry weight
Normal value for marine water sediment		4455		mg/kg dry weight
Normal value of STP microorganisms		100		mg/l
Normal value for the terrestrial compartment		8884		mg/kg dry weight

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation					1 mg/m ³ air		0,5 mg/m ³ air	

Dermal

VND
No quantitative risk assessment possible. Most sensitive endpoint : Sensitisation (respiratory tract and skin)

VND
No quantitative risk assessment possible. Most sensitive endpoint : Sensitisation (respiratory tract and skin)

HDI oligomers, uretdione

Predicted no-effect concentration - PNEC			
Normal value in fresh water	>0,05	mg/l	
Normal value in marine water	>0,005	mg/l	
Normal value for fresh water sediment	>1,33	mg/kg	dry weight
Normal value for marine water sediment	>0,133	mg/kg	dry weight
Normal value of STP microorganisms	55,6	mg/l	
Normal value for the terrestrial compartment	>0,066	mg/kg	dry weight

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation					0,7 mg/m ³ air		0,35 mg/m ³ air	
Dermal					VND No quantitative risk assessment possible. Most sensitive endpoint : Sensitisation (respiratory tract and skin)		VND No quantitative risk assessment possible. Most sensitive endpoint : Sensitisation (respiratory tract and skin)	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

Hand protection:

Suitable materials for safety gloves; EN 374:

Butyl rubber - IIR: thickness $\geq 0,5$ mm; breakthrough time ≥ 480 min.

Fluorinated rubber - FKM: thickness $\geq 0,4$ mm; breakthrough time ≥ 480 min.

Laminate glove - PE/EVAL/PE; breakthrough time ≥ 480 min.

Recommendation: contaminated gloves should be disposed of.

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

Respiratory protection required in insufficiently ventilated working areas and during spraying. An air-fed mask, or for short periods of work, a combination of charcoal filter and particulate filter is recommended.

Further recommendations regarding respiratory protection can be found in the individual exposure scenarios in the appendix.

In case of hypersensitivity of the respiratory tract and skin (e.g. asthmatics and those who suffer from chronic bronchitis and chronic skin complaint) it is inadvisable to work with the product.

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	liquid
Colour	colourless
Odour	slight odor of isocyanates
Odour threshold	Not available
pH	Not applicable
Melting point / freezing point	-48°C (ISO 3016)
Initial boiling point	231°C at 1.013 hPa (DIN 53171)
Boiling range	Non available
Flash point	183 °C at 1.013 hPa (DIN EN ISO 2719)
Evaporation Rate	Not available
Flammability of solids and gases	Not applicable
Lower flammability limit	Not available
Upper flammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	4 hPa at 20°C (EG A4) 21 hPa at 50°C (EG A4) 26 hPa at 55°C (EG A4)
	0,007 hPa at 20°C (Hexamethylene-1,6-diisocyanate) OECD 104
	0,0029 hPa at 20°C (HDI oligomers, uretdione) OECD 104
	< 0,00001 hPa at 20°C (HDI oligomers, iminooxadiazindione) OECD 104
Vapour density	Not available
Relative density	1,15 g/cm ³ at 20°C (DIN 51757)
Solubility	immiscible in water at 15 °C
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not applicable (Ignition temperature: 430 °C – DIN 51794)
Decomposition temperature	Not available
Viscosity	596 mPa.s at 20°C (DIN 53019)
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

Information not available

SECTION 10. Stability and reactivity

10.1. Reactivity

No particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

Exothermic reaction with amines and alcohols; reacts slowly with water forming CO₂, in closed containers risk of bursting owing to increase of pressure.

10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

No hazardous decomposition products when stored and handled correctly.

SECTION 11. Toxicological information

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

LC50 (Inhalation) of the mixture: 1,01 mg/l 4h (dust/mist)

LD50 (Oral) of the mixture: Not classified (no significant component)

LD50 (Dermal) of the mixture: Not classified (no significant component)

HDI oligomers, iminooxadiazindione

LD50 (Oral) > 5000 mg/kg Rat female (OECD TG 423)

LD50 (Dermal) > 2000 mg/kg Rat (OECD TG 402)

Acute toxicity, inhalation:

LC50 rat, female: 0,390 mg/l, 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

The substance was tested in a form (i.e. specific particle size distribution) that is different from the forms in which the substance is placed on the market and in which it can reasonably be expected to be used. Based on the "split-entry" concept and available data on particle size during end-use of the substance a modified classification for acute inhalation toxicity is justified.

Converted acute toxicity point estimate 1,5 mg/l

Test atmosphere: dust/mist

Method: Expert judgement

Assessment: Harmful if inhaled.

HDI oligomers, uretdione

LD50 (Oral) > 5665 mg/kg Rat female (OECD TG 401)

LD50 (Dermal) > 2000 mg/kg Rat (OECD TG 402)

Acute toxicity, inhalation:

LC50 rat, female: 0,158 mg/l, 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

The substance was tested in a form (i.e. specific particle size distribution) that is different from the forms in which the substance is placed on the market and in which it can reasonably be expected to be used. Based on the "split-entry" concept and available data on particle size during end-use of the substance a modified classification for acute inhalation toxicity is justified.

Converted acute toxicity point estimate 0,5 mg/l

Test atmosphere: dust/mist

Method: Expert judgement

Assessment: Toxic if inhaled.

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

HDI oligomers, iminooxadiazindione

Method: OECD 404

Reliability (Klimisch score): 1

Type: rabbit (new Zealand White)

Results: not irritant

HDI oligomers, uretdione

Method: OECD 404

Reliability (Klimisch score): 1

Type: rabbit (new Zealand White)

Results: not irritant

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

HDI oligomers, iminooxadiazindione

Method: OECD 405

Reliability (Klimisch score): 1

Type: rabbit (new Zealand White)

Results: not irritant

HDI oligomers, uretdione

Method: OECD 405

Reliability (Klimisch score): 1

Type: rabbit (new Zealand White)

Results: not irritant

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

Respiratory sensitization

HDI oligomers, iminooxadiazindione

Based on the evidence of available data, determined by the judgement of experts, the substance is not classified for the hazard class CLP of Respiratory sensitization.

HDI oligomers, uretdione

Based on the evidence of available data, determined by the judgement of experts, the substance is not classified for the hazard class CLP of Respiratory sensitization.

Skin sensitization

HDI oligomers, iminooxadiazindione

Method: OECD 429

Reliability (Klimisch score): 1
Type: mouse
Results: sensitising

HDI oligomers, uretdione

Method: OECD 406
Reliability (Klimisch score): 1
Type: guinea pig
Results: sensitising

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

HDI oligomers, iminooxadiazindione

Based on the evidence of available data, determined by the judgement of experts, the substance is not classified for the hazard class CLP of germ cell mutagenicity (OECD TG 471, 476, 473)

HDI oligomers, uretdione

Based on the evidence of available data, determined by the judgement of experts, the substance is not classified for the hazard class CLP of germ cell mutagenicity (OECD TG 471, 476, 473, 474, 486)

CARCINOGENICITY

There no available data for the hazard class CLP of carcinogenicity

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

HDI oligomers, iminooxadiazindione

Based on the evidence of available data, determined by the judgement of experts, the substance is not classified for the hazard class CLP of reproductive toxicity

HDI oligomers, uretdione

Based on the evidence of available data, determined by the judgement of experts, the substance is not classified for the hazard class CLP of reproductive toxicity

STOT - SINGLE EXPOSURE

May cause respiratory irritation.

HDI oligomers, iminooxadiazindione

Based on the evidence of available data, determined by the judgement of experts, the substance is classified as STOT-SE
Target organ: respiratory tract

HDI oligomers, uretdione

Based on the evidence of available data, determined by the judgement of experts, the substance is classified as STOT-SE
Target organ: respiratory tract

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

HDI oligomers, iminooxadiazindione

Based on the evidence of available data, determined by the judgement of experts, the substance is not classified for the hazard class CLP of stot - repeated exposure.

HDI oligomers, uretdione

Based on the evidence of available data, determined by the judgement of experts, the substance is not classified for the hazard class CLP of stot - repeated exposure.

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

HDI oligomers, iminooxadiazindione

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

HDI oligomers, uretdione

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

SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity**HDI oligomers, iminooxadiazindione**

LC50 - for Fish	> 100 mg/l/96h Danio Rerio (Method: Directive 67/548/EEC, Annex V, C.1)
EC50 - for Crustacea	> 100 mg/l/48h Daphnia magna (Method: Directive 67/548/EEC, Annex V, C.2)
ErC50 - for Algae / Aquatic Plants	199 mg/l/72h Scenedesmus subspicatus (Method: Directive 67/548/EEC, Annex V, C.3)

HDI oligomers, uretdione

LC50 - for Fish	> 100 mg/l/96h Danio Rerio (Method: Directive 67/548/EEC, Annex V, C.1)
EC50 - for Crustacea	> 100 mg/l/48h Daphnia magna (Method: Directive 67/548/EEC, Annex V, C.2)
ErC50 - for Algae / Aquatic Plants	50-100 mg/l/72h Scenedesmus subspicatus (Method: Directive 67/548/EEC, Annex V, C.3)

12.2. Persistence and degradability**HDI oligomers, iminooxadiazindione**

NOT rapidly degradable – 2%, 28 days (EU Method C.4.E)

Stability in water:

Test type: Hydrolysis

Half life: 7,7 h at 23 °C

The substance hydrolyzes rapidly in water.

Photodegradation:

Test type: Phototransformation in air

Temperature: 25 °C

sensitizer: OH-radicals

Half-life indirect photolysis: 11,7 h

Method: SRC - AOP (calculation)

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Test type: Phototransformation in air

Temperature: 25 °C

sensitizer: OH-radicals

Half-life indirect photolysis: 3,1 h

Method: SRC - AOP (calculation)

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Studies of hydrolysis products.

Volatility (Henry's Law constant):

Calculated value = < 0,000001 Pa*m³/mol at 25 °C

Method: Bond-method

The substance has to be scored as non-volatile from water.

HDI oligomers, uretdione

NOT rapidly degradable – 1%, 21 days (EU Method C.4.E)

Stability in water:

Test type: Hydrolysis

Half life: 6,1 h at 23 °C

The substance hydrolyzes rapidly in water.

Photodegradation:

Test type: Phototransformation in air

Temperature: 25 °C

sensitizer: OH-radicals

Half-life indirect photolysis: 0,64 h

Method: SRC - AOP (calculation)

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Test type: Phototransformation in air

Temperature: 25 °C

sensitizer: OH-radicals

Half-life indirect photolysis: 0,19 h

Method: SRC - AOP (calculation)

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Studies of hydrolysis products.

Volatility (Henry's Law constant):

Calculated value = < 0,000002 Pa*m³/mol at 25 °C

Method: Bond-method

The substance has to be scored as non-volatile from water.

12.3. Bioaccumulative potential

HDI oligomers, iminooxadiazindione

BCF 706,2 (Calculated)

HDI oligomers, uretdione

BCF 788 (Calculated)

12.4. Mobility in soil

Information not applicable

HDI oligomers, iminooxadiazindione / HDI oligomers, uretdione: not applicable

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

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

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Not applicable

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

Information not relevant

SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EC: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

*Point 3.
Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008:*

- (a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;*
- (b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10;*
- (c) hazard class 4.1.*
- (d) hazard class 5.1.*

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the substances:

HDI oligomers, iminooxadiazindione Nr. Reg. 01-2119488934-20

HDI oligomers, uretdione Nr. Reg. 01-2119488177-26

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
EUH204	Contains isocyanates. May produce an allergic reaction.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

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- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

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

- Acute toxicity, category 4
- Specific target organ toxicity - single exposure, category 3
- Skin sensitization, category 1

Classification procedure

- H332 Calculation method
- H335 Calculation method
- H317 Calculation method

Note for the recipient of the Safety Data Sheet (SDS):

The recipient of this SDS shall make sure of reading and understanding the information included by all people who handle, store, use, or otherwise come into contact in any way with the substance or mixture to which this SDS is referred to. In particular, the recipient shall provide adequate training to the personnel for the use of hazardous substances and/or mixtures. The recipient shall verify the suitability and completeness of the provided information according to the specific use of the substance or mixture. However, the substance or mixture referred to by this SDS shall not be used for uses other than those specified in Section 1. The Supplier don't assume responsibility for improper uses. Since the use of the product does not fall under the direct control of the Supplier, the user shall, under his own responsibility, fulfill national and EU regulations concerning health and safety.

The information included in this SDS are provided in good faith and are based on the current state of scientific and technical knowledge, at the revision date indicated, available to the Supplier indicated in Section 1 of this SDS. It shall not be meant that the SDS is a guarantee of any specific property of the substance or mixture. The information concern only to the substance or mixture specifically designated in Section 1 and it could not be valid for the substance or mixture used in combination with other materials or in any process not specified in the text.

EXPOSURE SCENARIO RELATED ON SUBSTANCES PRESENT IN THE MIXTURE

	Identified uses	Exposure scenario
HDI oligomers, iminooxadiazindione Nr. Reg. 01-2119488934-20		
HDI oligomers, uretdione Nr. Reg. 01-2119488177-26	Industrial end use Professional end use	ES2 ES3

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