

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Anti graffiti painting RAL7035 at ST50/E1
Codes: (NSYAUPG1G, NSYAUPG5G)

1.2. Relevant identified uses and uses advised against

- Intended uses (main technical functions): industrial paint.
- Sectors of use: # industrial manufacturing (SU3).
- Uses advised against: # this product is not recommended for any use or sector of use industrial, professional or consume other than those previously listed as "Intended or identified uses". If your use is not covered, please contact the supplier of this material safety data sheet.
- Restrictions on manufacture, placing on market and use, according to Annex XVII of Regulation (EC) No. 1907/2006: # not restricted.

1.3. Details of the supplier of the safety data sheet

Schneider Electric Industries SAS

Le Hive
35 rue Joseph Monier - CS 30323
F-92506 Rueil Malmaison Cedex
Tel. +33 (0) 4 76 57 60 60
e-mail from the person in charge of MSDS: centre-service-client@fr.schneider-electric.com

1.4. Emergency telephone number

- | | | |
|---|--|---|
| <u>Austria</u> : +43 (0) 1 406 43 43 | <u>Romania</u> : +40 21 318 36 06 | <u>Hungary</u> : +36 80 20 11 99 |
| <u>Bulgaria</u> : 112 | <u>Slovenia</u> : 112 | <u>Latvia</u> : +371 67042473 |
| <u>Cyprus</u> : 1401 | <u>Sweden</u> : 112 ^[3] | <u>Luxembourg</u> : 112 |
| <u>Denmark</u> : +45 82 12 12 12 ^[1] | <u>Iceland</u> : 112 | <u>Netherlands</u> : +31 (0)30-2748888 ^[2] |
| <u>Finland</u> : +358 (0)9 471977 | <u>Norway</u> : +47 22 59 13 00 | <u>Portugal</u> : +351 808 250 143 |
| <u>Greece</u> : +30 210 7793777 | <u>Belgium</u> : +32 (0) 70 245 245 | <u>Slovakia</u> : +421 2 5477 4166 |
| <u>Italy</u> : +39 (0)55 7947819 | <u>Croatia</u> : +385 (0)1-23-48-342 | <u>Spain</u> : 112 |
| <u>Lithuania</u> : +370 687 53378 | <u>Czech Republic</u> : +420 224919293 | <u>United Kingdom</u> : 111 (UK only) |
| <u>Malta</u> : 112 | <u>Estonia</u> : 16662 | <u>Liechtenstein</u> : 145 |
| <u>Poland</u> : 112 | <u>France</u> : +33 (0)1 45 42 59 59 | <u>Switzerland</u> : 145 |

[1] Kontakt Giftlinien på tif.nr.: 82 12 12 12 (äbent 24 timer i døgnet). Se punkt 4 om førstehjælp.

[2] Only for the purpose of informing medical personnel in cases of acute intoxications.

[3] Ask for Poison Information.

Section 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification in accordance with Regulation (EC) No. 1272/2008~487/2013 (CLP) :
WARNING: Flam. Liq. 3:H226
Skin Irrit. 2:H315
Eye Irrit. 2:H319
STOT RE 2:H373i
Aquatic Chronic 2:H411

Danger class	Classification of the mixture	Cat.	Routes of exposure	Target organs	Effects
 Physicochemical	Flam. Liq. 3:H226 Skin Irrit. 2:H315 Eye Irrit. 2:H319 STOT RE 2:H373i Aquatic Chronic 2:H411	Cat.3	-	-	-
 Human health		Cat.2	Skin	Skin	Irritation
 Environment		Cat.2	Eyes	Eyes	Irritation
		Cat.2	Inhalation	Systemic	Damage
		Cat.2	-	-	-

Full text of hazard statements mentioned is indicated in section 16.

2.2. Label elements



This product is labelled with the signal word DANGER in accordance with Regulation (EC) No. 1272/2008~487/2013 (CLP).

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Hazard statements:

- H226: flammable liquid and vapour.
- H373i: may cause damage to organs through prolonged or repeated exposure if inhaled.
- H319: causes serious eye irritation.
- H315: causes skin irritation.
- H411: toxic to aquatic life with long lasting effects.

Precautionary statements:

- P210: keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P243: take precautionary measures against static discharge.
- P260: do not breathe vapour, spray.
- P264a: wash the hands thoroughly after handling.
- P280B: wear protective gloves and eye protection .
- P303 + P361 + P353 - P352 - P312: IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water. Call a POISON CENTER or doctor if you feel unwell.
- P273 - P391 - P501c: avoid release to the environment. Collect spillage. Dispose of contents/container as hazardous waste.

Supplementary statements:

- EUH208: contains bis (12266-pentamethyl-4-piperidynyl) sebacate, methyl 12266-pentamethyl-4-piperidynyl sebacate. May produce an allergic reaction.

Hazardous ingredients:

Xylene (mixture of isomers)
Ethylbenzene

2.3. Other hazards

- Hazards which do not result in classification but which may contribute to the overall hazards of the mixture:
- Other physicochemical hazards: vapours may form with air a mixture potentially flammable or explosive.
 - Other adverse human health effects: # prolonged exposure to vapours may produce transient drowsiness. In case of prolonged contact, the skin may become dry.
 - Other negative environmental effects: # does not contain substances that fulfil the PBT/vPvB criteria.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable (mixture).

3.2. Mixtures

This product is a mixture.

- Chemical description: # mixture of pigments, extenders, resins and additives in organic solvents.

Hazardous ingredients:

Substances taking part in a percentage higher than the exemption limit.

Danger	Hazardous substances	Concentration (%m/m)	Classification
	n-butyl acetate CAS: 123-86-4 EC: 204-658-1 REACH: 01-2119485493-29 Index No. 607-025-00-1	10 < 15 %	CLP: Warning: Flam. Liq. 3:H226 STOT SE (narcosis) 3:H336 EUH066 < REACH / ATP01
	Xylene (mixture of isomers) CAS: 1330-20-7 EC: 215-535-7 REACH: 01-2119488216-32 Index No. 601-022-00-9	5 < 10 %	CLP: Danger: Flam. Liq. 3:H226 Acute Tox. (inh.) 4:H332 Acute Tox. (skin) 4:H312 Skin Irrit. 2:H315 Eye Irrit. 2:H319 STOT SE (irrit.) 3:H335 STOT RE 2:H373i Asp. Tox. 1:H304 < REACH
	2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9 REACH: 01-2119475791-29 Index No. 607-195-00-7	5 < 10 %	CLP: Warning: Flam. Liq. 3:H226 < REACH / ATP01
	Butylglycol acetate CAS: 112-07-2 EC: 203-933-3 REACH: 01-2119475112-47 Index No. 607-038-00-2	2,5 < 5 %	CLP: Warning: Acute Tox. (inh.) 4:H332 Acute Tox. (skin) 4:H312 Acute Tox. (oral) 4:H302 < REACH

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Danger	Hazardous substances	Concentration (%m/m)	Classification
	1-oleylamidomethyl-heptadecenylimidazolium sulfate List No. 931-745-8 REACH: 01-2119582803-32 Autoclassified	1 < 3 %	CLP: Warning: Skin Irrit. 2:H315 Eye Irrit. 2:H319 Aquatic Acute 1:H400 Aquatic Chronic 1:H410 < REACH
	Ethylbenzene CAS: 100-41-4 EC: 202-849-4 REACH: 01-2119489370-35 Index No. 601-023-00-4	1 < 2 %	CLP: Danger: Flam. Liq. 2:H225 Acute Tox. (inh.) 4:H332 STOT RE 2:H373iE Asp. Tox. 1:H304 < REACH / ATP06
	Bis(12266-pentamethyl-4-piperidynyl) sebacate CAS: 41556-26-7 EC: 255-437-1 Autoclassified	< 1 %	CLP: Warning: Skin Sens. 1:H317 Aquatic Acute 1:H400 Aquatic Chronic 1:H410
	Methyl 12266-pentamethyl-4-piperidynyl sebacate CAS: 82919-37-7 EC: 280-060-4 Autoclassified	< 0,20 %	CLP: Warning: Skin Sens. 1:H317 Aquatic Acute 1:H400 Aquatic Chronic 1:H410

- Impurities: # does not contain other components or impurities which will influence the classification of the product.
- Stabilizers: none.
- Reference to other sections: for more information, see sections 8, 11, 12 and 16.

Substances of very high concern (SVHC):

List updated by ECHA on 17/12/2014.

- Substances SVHC subject to authorisation, included in Annex XIV of Regulation (EC) no. 1907/2006: none.
- Substances SVHC candidate to be included in Annex XIV of Regulation (EC) no. 1907/2006: none.

Persistent, bioaccumulable and toxic PBT, or very persistent and very bioaccumulable vPvB substances:

Does not contain substances that fulfill the PBT/vPvB criteria.

Section 4. FIRST AID MEASURES

4.1. Description of first-aid measures and main symptoms and effects, acute and delayed



Symptoms may occur after exposure, so that in case of direct exposure to the product, when in doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. Lifeguards should pay attention to self-protection and use the recommended protective equipment if there is a possibility of exposure. Wear protective gloves when administering first aid.

Route of exposure	Symptoms and effects, acute and delayed	Description of first-aid measures
Inhalation 	Inhalation of solvent vapours may produce headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, unconsciousness.	Remove the patient out of the contaminated area into the fresh air. If breathing is irregular or stops, administer artificial respiration. If the person is unconscious, place in appropriate recovery position. Keep the patient warm and at rest until medical attention arrives.
Skin 	# Skin contact causes redness. In case of prolonged contact, the skin may become dry.	Remove immediately contaminated clothing. Wash thoroughly the affected area with plenty of cold or lukewarm water and neutral soap, or use a suitable skin cleanser. Do not use solvents or thinners.
Eyes 	Contact with the eyes produces redness and pain.	# Remove contact lenses. Rinse eyes copiously by irrigation with plenty of clean, fresh water for at least 15 minutes, holding the eyelids apart, until the irritation is reduced. Call a physician immediately.
Ingestion 	If swallowed, may cause irritation of the throat, abdominal pain, drowsiness, nausea, vomiting and diarrhoea.	If swallowed, seek immediate medical attention. Do not induce vomiting, due to the risk of aspiration. Keep the patient at rest.

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

Notes to physician:

Treatment should be directed at the control of symptoms and the clinical condition of the patient.

Antidotes and contraindications:

Specific antidote not known.

Section 5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Extinguishing powder or CO₂. In the case of more important fires, also alcohol resistant foam and water spray/mist. Do not use for extinguishing: direct water jet. Direct water jet may not be effective to extinguish the fire, since the fire may spread.

5.2. Special hazards arising from the substance or mixture

Fire can produce a dense black smoke. As consequence of combustion or thermal decomposition, hazardous products may be produced: carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides. Exposure to combustion or decomposition products may be a hazard to health.

5.3. Advice for firefighters

Special protective equipment:

Depending on magnitude of fire, heat-proof protective clothing may be required, appropriate independent breathing apparatus, gloves, protective glasses or face masks and boots. If the fire-proof protective equipment is not available or not used, combat fire from a sheltered position or at a safe distance. The standard EN469 provides a basic level of protection for chemical incidents.

Other recommendations:

Cool with water the tanks, cisterns or containers close to sources of heat or fire. Bear in mind the direction of the wind. Do not allow fire-fighting residue to enter drains, sewers or water courses.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Eliminate possible sources of ignition and when appropriate, ventilate the area. Do not smoke. Avoid direct contact with this product. Avoid breathing vapours. Keep people without protection in opposition to the wind direction.

6.2. Environmental precautions

Avoid contamination of drains, surface or subterranean water and soil. In the case of large scale spills or when the product contaminates lakes, rivers or sewages, inform the appropriate authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Contain and mop up spills with non-combustible absorbent materials (earth, sand, vermiculite, diatomaceous earth, etc.). Clean preferably with a biodegradable detergent. Avoid use of solvents. Keep the remains in a closed container.

6.4. Reference to other sections

- For contact information in case of emergency, see section 1.
- For information on safe handling, see section 7.
- For exposure controls and personal protection measures, see section 8.
- For subsequent waste disposal, follow the recommendations in section 13.

Section 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Comply with the existing legislation on health and safety at work.

General recommendations:

Avoid any type of leakage or escape. Keep the container tightly closed.

Recommendations for the prevention of fire and explosion risks:

Vapours are heavier than air, may spread along floors to a considerable distance, can form explosive mixtures with air and are able to reach distant ignition sources and flame up or explode. Due to its flammability, this material should only be used in areas from which all naked lights and other sources of ignition have been excluded and away from other heat or electrical sources. Switch mobile phones off and do not smoke. The zones with risk of explosion should be marked. Use instruments, systems and protective equipment adequate to the classification of zones, according to the health and safety at work laws, in accordance with Directive 94/9/EC and 99/92/EC. Electrical equipment should be protected to the appropriate standard. No tools with a potential for sparks should be used. Elaborate the document "Protection against explosions".

Flash point	Autoignition temperature	Upper/lower flammability or explosive limits	Upper/lower flammability or explosive limits
29.°C	# 376.°C	1.4 - 8.6 % Volume 25°C	0.9 - 11.6 % Volume 300°C

Recommendations for the prevention of toxicological risks:

Do not eat, drink or smoke in application and drying areas. After handling, wash hands with soap and water. For exposure controls and personal protection measures, see section 8.

Recommendations for the prevention of environmental contamination:

Product dangerous to the environment. Avoid any spillage in the environment. Pay special attention to the cleaning water. In the case of accidental spillage, follow the instructions indicated in section 6.

7.2. Conditions for safe storage, including any incompatibilities

Prevent unauthorized access. This product should be stored isolated from heat and electrical sources. Do not smoke in storage area. If possible, avoid direct contact with sunlight. Avoid extreme humidity conditions. In order to avoid leakages, the containers, after use, should be closed carefully and placed in a vertical position. For more information, see section 10.

Class of store	Maximum storage period	Temperature interval	Incompatible materials	Type of packaging	Limit quantity (Seveso III) Directive 96/82/EC~2003/105/EC
According to current legislation	6. months	min: 5. °C, max: 35. °C (recommended)	Keep away from oxidizing agents, from strongly alkaline and strongly acid materials	According to current legislation	Lower threshold: 200 tons, Upper threshold: 500 tons

7.3. Specific end uses

For the use of this product do not exist particular recommendations apart from that already indicated.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

If a product contains ingredients with exposure limits, may be necessary a personnel monitoring, work place or biological, to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to EN689, EN14042 and EN482 standard concerning methods for assessing the exposure by inhalation to chemical agents, and exposure to chemical and biological agents. Reference should be also made to national guidance documents for methods for the determination of dangerous substances.

Occupational exposure limit values (TLV):

AGCIH 2013	Year	TLV-TWA		TLV-STEL		Observations
		ppm	mg/m ³	ppm	mg/m ³	
n-butyl acetate		50.	275.	100.	550.	Vd
Xylene (mixture of isomers)	1996	100.	434.	150.	651.	Recommended
2-methoxy-1-methylethyl acetate	1998	150.	713.	200.	950.	A4
Butylglycol acetate	2003	20.	133.	-	-	A3
Ethylbenzene	2002	100.	434.	125.	543.	A3
Bis(12266-pentamethyl-4-piperidynyl) sebacate		-	1.0	-	-	Internal value
Methyl 12266-pentamethyl-4-piperidynyl sebacate		-	1.0	-	-	Internal value

TLV - Threshold Limit Value.

TWA - Time Weighted Average.

STEL - Short Term Exposure Limit.

Vd - Dermal.

A3 - Carcinogenic in animals.

A4 - Non classified as carcinogenic in humans.

Dermal (Vd):

Means that, in exposures to this substance, the contribution by the cutaneous route, including the mucous membranes and eyes, may result significant for the overall body content if no measures are taken to prevent absorption. There are some chemicals for which dermal absorption, both in liquid and vapour phases, can be very high, and this route of entry may be or equal or greater importance even that inhalation pathway. In these situations, the use of a biological control is essential in order to quantify the overall amount of contaminant absorbed.

Biological limit values:

Not established.

Derived no-effect level (DNEL):

Derived no-effect level (DNEL) is a level of exposure that is considered safe, derived from toxicity data according to specific guidances included in REACH. DNEL values may differ from a occupational exposure limit (OEL) for the same chemical. OEL values may come recommended by a particular company, a government regulatory agency or an organization of experts. Although considered protective of health, the OEL values are derived by a process different of REACH.

Derived no-effect level, workers (systemic effects, acute and chronic)	DNEL Inhalation (mg/m ³)		DNEL Cutaneous (mg/kg bw/d)		DNEL Oral (mg/kg bw/d)	
n-butyl acetate	960. (a)	480. (c)	- (a)	- (c)	- (a)	- (c)
Xylene (mixture of isomers)	289. (a)	77.0 (c)	s/r (a)	180. (c)	- (a)	- (c)
2-methoxy-1-methylethyl acetate	- (a)	275. (c)	- (a)	154. (c)	- (a)	- (c)
Butylglycol acetate	775. (a)	133. (c)	102. (a)	102. (c)	- (a)	- (c)
1-oleylamidomethyl-heptadecenylimidazolium sulfate	132. (a)	44.0 (c)	s/r (a)	12.5 (c)	- (a)	- (c)
Ethylbenzene	s/r (a)	77.0 (c)	s/r (a)	180. (c)	- (a)	- (c)

Derived no-effect level, workers (local effects, acute and chronic)	DNEL Inhalation (mg/m ³)		DNEL Cutaneous (mg/cm ²)		DNEL Eyes (mg/cm ²)	
n-butyl acetate	960. (a)	480. (c)	- (a)	- (c)	- (a)	- (c)
Xylene (mixture of isomers)	289. (a)	s/r (c)	s/r (a)	s/r (c)	- (a)	- (c)
2-methoxy-1-methylethyl acetate	- (a)	- (c)	- (a)	- (c)	- (a)	- (c)
Butylglycol acetate	333. (a)	s/r (c)	s/r (a)	s/r (c)	- (a)	- (c)
1-oleylamidomethyl-heptadecenylimidazolium sulfate	- (a)	- (c)	b/r (a)	b/r (c)	b/r (a)	- (c)
Ethylbenzene	293. (a)	s/r (c)	s/r (a)	s/r (c)	- (a)	- (c)

Derived no-effect level, general population:

Not applicable (product for industrial use).

(a) - Acute, short-term exposure.

(c) - Chronic, long-term or repeated exposure.

(-) - DNEL not available (without data of registration REACH).

s/r - DNEL not derived (not identified hazard).

b/r - DNEL not derived (low hazard).

Predicted no-effect concentration (PNEC):

Predicted no-effect concentration, aquatic organisms (fresh water, marine water and intermitent release)	PNEC Fresh water (mg/l)	PNEC Marine (mg/l)	PNEC Intermittent (mg/l)
n-butyl acetate	0.180	0.0180	0.360
Xylene (mixture of isomers)	0.327	0.327	0.327
2-methoxy-1-methylethyl acetate	0.635	0.0635	6.35
Butylglycol acetate	0.304	0.0304	0.560
1-oleylamidomethyl-heptadecenylimidazolium sulfate	0.00200	0.000200	-
Ethylbenzene	0.100	0.0100	0.100

Predicted no-effect concentration, aquatic organisms (wastewater treatment plants (STP) and sediments in fresh- and marine water)	PNEC STP (mg/l)	PNEC Sediments (mg/kg dry weight)	PNEC Sediments (mg/kg dry weight)
n-butyl acetate	35.6	0.981	0.0981
Xylene (mixture of isomers)	6.58	12.5	12.5
2-methoxy-1-methylethyl acetate	100.	3.29	0.329
Butylglycol acetate	90.0	2.03	0.203
1-oleylamidomethyl-heptadecenylimidazolium sulfate	5.64	18.5	1.85
Ethylbenzene	9.60	13.7	1.37

Predicted no-effect concentration, terrestrial organisms (air, soil and effects for predators and humans)	PNEC Air (mg/m ³)	PNEC Soil (mg/kg dry weight)	PNEC Oral (mg/kg bw/d)
n-butyl acetate	-	0.0903	-
Xylene (mixture of isomers)	-	2.31	-
2-methoxy-1-methylethyl acetate	-	0.290	-
Butylglycol acetate	-	0.680	60.0
1-oleylamidomethyl-heptadecenylimidazolium sulfate	s/r	15.1	n/b
Ethylbenzene	-	2.68	20.0

(-) - PNEC not available (without data of registration REACH).

s/r - PNEC not derived (not identified hazard).

n/b - PNEC not derived (not bioaccumulative potential).

8.2. Exposure controls

Engineering measures:






Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these measures are not sufficient to maintain concentrations of particulates and vapours below the Occupational Exposure Limits, suitable respiratory protection must be worn.

- **Protection of respiratory system:** avoid the inhalation of vapours. Avoid the inhalation of particles or spray mist arising from the application of this preparation.
- **Protection of eyes and face:** it is recommended to install emergency eye baths close to the working area.
- **Protection of hands and skin:** it is recommended to install emergency showers close to the working area. Barrier creams may help to protect the exposed areas of the skin. Barrier creams should not be applied once exposure has occurred.

Occupational exposure controls, directive 89/686/EEC~96/58/EC:

As a general measure on prevention and safety in the work place, we recommend the use of a basic personal protection equipment (PPE), with the corresponding EC marking. For more information on personal protective equipment (storage, use, cleaning, maintenance, type and characteristics of the PPE, protection class, marking, category, CEN norm, etc..), you should consult the informative brochures provided by the manufacturers of PPE.

 <p>Mask</p>	<p># Suitable combined filter mask for gases, vapours and particles (EN14387/EN143). Classe 1: low capacity up to 1000 ppm, Classe 2: medium capacity up to 5000 ppm, Classe 3: high capacity up to 10000 ppm. In order to obtain a suitable protection level, the filter class must be selected depending on the type and concentration of the contaminating agents present, in accordance with the specifications supplied by the filter producers. The respiratory equipment with filters does not work satisfactorily when the air contains high concentrations of vapour or oxygen content less than 18% in volume. If mask use is not sufficient, when operators, whether spraying or not, are inside the spraybooth, and ventilation is unlikely to be sufficient to constantly control particulates and solvent vapour in all cases, in such circumstances they should wear a compressed air-fed respiratory protective equipment (EN137) during the spraying process and until such a time as the particulates and solvent vapour concentration has fallen below the exposure limits.</p>
 <p>Goggles</p>	<p># Safety goggles designed to protect against liquid splashes, with suitable lateral protection (EN166). Clean daily and disinfect at regular intervals in accordance with the instructions of the manufacturer.</p>
<p>Face shield</p>	<p>No.</p>
 <p>Gloves</p>	<p># Gloves resistant against chemicals (EN374). When it can be a repeated or prolonged contact, it is recommended to use gloves with a protection level 5 or higher, with a breakthrough time >240 min. When you only expects a short contact, it is recommended to use gloves with a protection level 2 or higher, with a breakthrough time >30 min. The breakthrough time of the selected glove material should be in accordance with the pretended period of use. There are several factors (for example, temperature), they do in practice the period of use of a protective gloves resistant against chemicals is clearly lower than the established standard EN374. Due to the wide variety of circumstances and possibilities, we must have in mind the manual of instructions from manufacturers of gloves. The gloves should be immediately replaced when any sign of degradation is noted.</p>
<p>Boots</p>	<p>No.</p>
<p>Apron</p>	<p>No.</p>
<p>Clothing</p>	<p>It is advisable personnel wear antistatic clothing made of natural fibre or high temperature resistant synthetic fibre.</p>

Thermal hazards:

Not applicable (the product is handled at room temperature).

Environmental exposure controls:

Avoid any spillage in the environment of the product, wastes, packages or spraybooth sewages. Avoid any release into the atmosphere above the legal.

- **Spills on the soil:** prevent contamination of soil.
- **Spills in water:** # toxic to aquatic organisms. May cause long-term adverse effects on the aquatic environment. Do not allow to escape into drains, sewers or water courses.
- **Emissions to the atmosphere:** because of volatility, emissions to the atmosphere while handling and use may result. Avoid any release into the atmosphere. Emissions from ventilation equipment or work processes should be evaluated to verify compliance with the requirements of the legislation on the prevention of environment. In some cases it will be necessary to use fume scrubbers, filters or modifications in the design of process equipment to reduce emissions to an acceptable level.
- **VOC (industrial installations):** it is applicable the Directive 1999/13/EC, on the limitation of emissions of volatile compounds due to the use of organic solvents in certain activities and installations: 8) Plastic coating. Solvents : 33.7% Weight , VOC (supply) : 33.7% Weight , VOC : 23.2% C (expressed as carbon) , Molecular weight (average) : 119.1 , Number C atoms (average) : 6.8.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<p>Appearance</p>	Physical state	Liquid
	Colour	Grey
	Odour	Characteristic
	Odour threshold	Not available (mixture)
<p>pH-value</p>	pH	Not applicable
<p>Change of state</p>	Melting point	Not applicable (mixture).
	Initial boiling point	126.3 °C at 760 mmHg
<p>Density</p>	Relative density	# 1.437 at 20/4°C Relative water
<p>Stability</p>	Decomposition temperature	Not available
<p>Viscosity</p>	Dynamic viscosity	# 1200. ± 200. cps 20°C
	Kinematic viscosity	# 280. mm²/s at 40°C
<p>Volatility</p>	Vapour pressure	# Not available
<p>Solubility(ies)</p>	Solubility in water	Not miscible
	Solubility in oils and fats	# Not available
<p>Flammability</p>	Flash point	29. °C
	Upper/lower flammability or explosive limits	1.4 - 8.6 % Volume 25°C
	Upper/lower flammability or explosive limits	0.9 - 11.6 % Volume 300°C
	Autoignition temperature	# 376. °C

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Explosive properties:

Vapours can form explosive mixtures with air and are able to flame up or explode in presence of an ignition source.

Oxidizing properties:

Not classified as oxidizing product.

9.2. Other information

Solids	66.3 % Weight 30'130°C
VOC (supply)	33.7 % Weight
VOC (supply)	# 484.7 g/l

The values indicated do not always coincide with product specifications. The data for the product specifications can be found in the technical data sheet of the same. For additional information concerning physical and chemical properties related to safety and environment, see sections 7 and 12.

Section 10. STABILITY AND REACTIVITY

10.1. Reactivity

- Corrosivity to metals: # it is not corrosive to metals.
- Pyrophorical properties: it is not pyrophoric.

10.2. Chemical stability

Stable under recommended storage and handling conditions.

10.3. Possibility of hazardous reactions

Possible dangerous reaction with oxidizing agents, acids, alkalis, peroxides.

10.4. Conditions to avoid

- Heat: keep away from sources of heat.
- Light: if possible, avoid direct contact with sunlight.
- Air: not applicable.
- Humidity: avoid extreme humidity conditions.
- Pressure: not applicable.
- Shock: not applicable.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

As consequence of thermal decomposition, hazardous products may be produced: nitrogen oxides, sulfur oxides.

Section 11. TOXICOLOGICAL INFORMATION

No experimental toxicological data on the preparation is available. The toxicological classification for these mixture has been carried out by using the conventional calculation method of the Regulation (EC) No. 1272/2008~487/2013 (CLP).

11.1. Information on toxicological effects

Acute toxicity:





Dose and lethal concentrations (for individual ingredients)	DL50 (OECD 401) (mg/kg Oral)	DL50 (OECD 402) (mg/kg Cutaneous)	CL50 (OECD 403) (mg/m ³ .4h Inhalation)
n-butyl acetate	10768. Rat	17600. Rabbit	> 23400. Rat
Xylene (mixture of isomers)	4300. Rat	1700. Rabbit	> 22080. Rat
2-methoxy-1-methylethyl acetate	8532. Rat	> 5000. Rat	> 35700. Rat
Butylglycol acetate	1880. Rat	1480. Rabbit	> 400. Rat
1-oleylamidomethyl-heptadecenylimidazolium sulfate	15200. Rat	> 2000. Rat	
Ethylbenzene	3500. Rat	15400. Rabbit	> 17400. Rat
Bis(12266-pentamethyl-4-piperidynyl) sebacate	> 2000. Rat	> 2000. Rat	
Methyl 12266-pentamethyl-4-piperidynyl sebacate	> 2000. Rat	> 2000. Rat	

- No observed adverse effect level: not available.
- Lowest observed adverse effect level: not available.

Information on likely routes of exposure, acute toxicity:

Route of exposure	Acute toxicity	Cat.	Main effects, acute and/or delayed
Inhalation Not classified	ETA > 20000 mg/m ³	-	Not classified as a product with acute toxicity if inhaled (based on available data, the classification criteria are not met).
Skin Not classified	ETA > 2000 mg/kg	-	Not classified as a product with acute toxicity in contact with skin (based on available data, the classification criteria are not met).
Eyes Not classified	Not available	-	Not classified as a product with acute toxicity by eye contact (lack of data).
Ingestion Not classified	ETA > 5000 mg/kg	-	Not classified as a product with acute toxicity if swallowed (based on available data, the classification criteria are not met).

Corrosion / irritation / sensitisation:

Danger class	Target organs	Cat.	Main effects, acute and/or delayed
Respiratory corrosion/irritation Not classified	-	-	Not classified as a product corrosive or irritant by inhalation (based on available data, the classification criteria are not met).
Skin corrosion/irritation 	Skin 	Cat.2	# IRRITANT: Causes skin irritation.
Serious eye damage/irritation 	Eyes 	Cat.2	# IRRITANT: Causes serious eye irritation.
Respiratory sensitisation Not classified	-	-	Not classified as a product sensitising by inhalation (based on available data, the classification criteria are not met).
Skin sensitisation Not classified	-	-	Not classified as a product sensitising by skin contact (based on available data, the classification criteria are not met).

Contains bis(12266-pentamethyl-4-piperidynyl) sebacate, methyl 12266-pentamethyl-4-piperidynyl sebacate.
May produce an allergic reaction.

Aspiration hazard:

Danger class	Target organs	Cat.	Main effects, acute and/or delayed
Aspiration hazard Not classified	-	-	Not classified as a product hazardous by aspiration (based on available data, the classification criteria are not met).

Specific target organs toxicity (STOT), Single exposure (SE) and/or Repeated exposure (RE):

Not classified as a dangerous product for target organs (based on available data, the classification criteria are not met).

CMR effects:

- Carcinogenic effects: is not considered as a carcinogenic product.
- Genotoxicity: is not considered as a mutagenic product.
- Toxicity for reproduction: do not harm fertility. Do not harm the fetus developing.
- Effects via lactation: not classified as a hazardous product for children breast-fed.

Section 12. ECOLOGICAL INFORMATION

No experimental ecotoxicological data on the preparation as such is available. The ecotoxicological classification for these mixture has been carried out by using the conventional calculation method of the Regulation (EC) No. 1272/2008~487/2013 (CLP).

12.1. Toxicity

Acute toxicity in aquatic environment (for individual ingredients)	CL50 (OECD 203) (mg/l.96 hours)	CE50 (OECD 202) (mg/l.48 hours)	CE50 (OECD 201) (mg/l.72 hours)
n-butyl acetate	18. Fishes	44. Daphnia	675. Algae
Xylene (mixture of isomers)	14. Fishes	16. Daphnia	> 10. Algae
2-methoxy-1-methylethyl acetate	134. Fishes	408. Daphnia	> 1000. Algae
Butylglycol acetate	28. Fishes	37. Daphnia	1570. Algae
1-oleylamidomethyl-heptadecenylimidazolium sulfate	1.8 Fishes	0.11 Daphnia	0.33 Algae
Ethylbenzene	12. Fishes	1.8 Daphnia	33. Algae
Bis(12266-pentamethyl-4-piperidynyl) sebacate	0.97 Fishes	20. Daphnia	
Methyl 12266-pentamethyl-4-piperidynyl sebacate	0.97 Fishes	20. Daphnia	

No observed effect concentration	NOEC (OECD 210) (mg/l.28 days)	NOEC (OECD 211) (mg/l.21 days)
n-butyl acetate		23. Daphnia
2-methoxy-1-methylethyl acetate		> 100. Daphnia

Lowest observed effect concentration:

Not available.

12.2. Persistence and degradability

Not available.

Aerobic biodegradation (for individual ingredients)	DQO (mgO ₂ /g)	% DBO/DQO			Biodegradability
		5 days	14 days	28 days	
n-butyl acetate	2204.	~ 80.		~ 83.	Easy
Xylene (mixture of isomers)	2620.	~ 52.	~ 81.	~ 88.	Easy
2-methoxy-1-methylethyl acetate	1520.	~ 22.	~ 78.	~ 90.	Easy
Butylglycol acetate	2071.	~ 51.	~ 71.	~ 88.	Easy
1-oleylamidomethyl-heptadecenylimidazolium sulfate				4.	Not easy
Ethylbenzene	3164.	~ 30.	~ 68.	~ 79.	Easy
Bis(12266-pentamethyl-4-piperidynyl) sebacate					Not easy
Methyl 12266-pentamethyl-4-piperidynyl sebacate					Not easy

12.3. Bioaccumulative potential

Not available.

Bioaccumulation (for individual ingredients)	logPow	BCF (L/kg)	Potential
n-butyl acetate	1.81	6.9 (calculated)	No bioaccumulable
Xylene (mixture of isomers)	3.16	57. (calculated)	Low
2-methoxy-1-methylethyl acetate	0.560	3.2 (calculated)	No bioaccumulable
Butylglycol acetate	1.51	5.1 (calculated)	No bioaccumulable
1-oleylamidomethyl-heptadecenylimidazolium sulfate	5.70	71. (calculated)	Low
Ethylbenzene	3.15	56. (calculated)	Low
Bis(12266-pentamethyl-4-piperidynyl) sebacate	2.37		Not available
Methyl 12266-pentamethyl-4-piperidynyl sebacate	2.37		Not available

12.4. Mobility in soil

Not available.

12.5. Results of PBT and vPvB assesment, annex XIII of regulation (ec) no. 1907/2006

Does not contain substances that fulfill the PBT/vPvB criteria.

12.6. Other adverse effects

- Ozone depletion potential: not available.
- Photochemical ozone creation potential: not available.
- Earth global warming potential: in case of fire or incineration liberates CO₂.
- Endocrine disrupting potential: not available.

Section 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods, Directive 2008/98/EC

Take all necessary measures to prevent the production of waste whenever possible. Analyse possible methods for revaluation or recycling. Do not discharge into drains or the environment, dispose of at an authorised waste collection point. Waste should be handled and disposed of in accordance with current local and national regulations. For exposure controls and personal protection measures, see section 8.

Disposal of empty containers, Directive 94/62/EC~2005/20/EC, Decision 2000/532/EC:

Emptied containers and packaging should be disposed of in accordance with currently local and national regulations. The classification of packaging as hazardous waste will depend on the degree of emptying of the same, being the holder of the residue responsible for their classification, in accordance with Chapter 15 01 of Decision 2000/532/EC, and forwarding to the appropriate final destination. With contaminated containers and packaging, adopt the same measures as for the product in itself.

Procedures for neutralising or destroying the product:

Controlled incineration in special facilities for chemical waste, but in accordance with local regulations.

Section 14. TRANSPORT INFORMATION

14.1. UN number


1263.

14.2. UN proper shipping name


Paint.

14.3. Transport hazard class(es) and packing group


Transport by road (ADR 2015) and transport by rail (RID 2015):

Class	3	
Packaging group	III	
Classification code	F1	
Tunnel restriction code	(D/E)	
Transport category	3, max. ADR 1.1.3.6. 1000 L	
Limited quantities	5 L (see total exemptions ADR 3.4)	
Transport document	Consignment paper	
Instructions in writing	ADR 5.4.3.4	

Transport by sea (IMDG 36-12):

Class	3	
Packaging group	III	
Emergency Sheet (EmS)	F-E,S_E	
First Aid Guide (MFAG)	310,313	
Marine pollutant	No.	
Transport document	Shipping Bill of lading	

Transport by air (ICAO/IATA 2014):

Class	3	
Packaging group	III	
Transport document	Air Bill of lading	

Transport by inland waterways (ADN):

Not available.

14.4. Environmental hazards

Classified as hazardous for the environment.

14.5. Special precautions for user

Ensure that persons transporting the product know what to do in case of accident or spill. Always transport in closed containers that are in a vertical position and sure. Ensure adequate ventilation.

14.6. Transport in bulk according to annex II of marpol 73/78 and the IBC code

Not available.

Section 15. REGULATORY INFORMATION

15.1. EU safety, health and environmental regulations/legislation specific

The regulations applicable to this product generally are listed throughout this material safety data sheet.

- Restrictions on manufacture, placing on market and use: see section 1.2.
- Control of the risks inherent in major accidents (Seveso III): see section 7.2.
- Tactile warning of danger: not applicable (product for industrial use).
- Child safety protection: not applicable (the classification criteria are not met).
- VOC information on the label: for use in installations falling under the scope of Directive 1999/13/EC only.
- Other regulations: not available.

15.2. Chemical safety assessment

Not applicable (mixture).

Section 16. OTHER INFORMATION

16.1. Text of the phrases and notes referenced in sections 2 and/or 3

Hazard statements according the Regulation (EC) No. 1272/2008~487/2013 (CLP), Annex III:

- H225: highly flammable liquid and vapour.
- H226: flammable liquid and vapour.
- H302: harmful if swallowed.
- H304: may be fatal if swallowed and enters airways.
- H312: harmful in contact with skin.
- H315: causes skin irritation.
- H317: may cause an allergic skin reaction.
- H319: causes serious eye irritation.
- H332: harmful if inhaled.
- H335: may cause respiratory irritation.
- H336: may cause drowsiness or dizziness.
- H400: very toxic to aquatic life.
- H410: very toxic to aquatic life with long lasting effects.
- EUH066: repeated exposure may cause skin dryness or cracking.
- H373i: may cause damage to organs through prolonged or repeated exposure if inhaled.
- H373iE: may cause damage to hearing organs through prolonged or repeated exposure if inhaled.

Advices on any training appropriate for workers:

It is recommended for all staff that will handle this product to carry out a basic training in occupational risk and prevention, in order to provide understanding and interpretation of material safety data sheets and labelling of products as well.

Main literature references and sources for data:

- # *European Chemicals Agency: ECHA, <http://echa.europa.eu/>*
- # *Access to European Union Law, <http://eur-lex.europa.eu/>*
- *Industrial Solvents Handbook, Ibert Mellan (Noyes Data Co., 1970).*
- *Threshold Limit Values, (AGCIH, 2012).*
- *European agreement on the international carriage of dangerous goods by road, (ADR 2015).*
- *International Maritime Dangerous Goods Code IMDG including Amendment 36-12 (IMO, 2012).*

Abbreviations and acronyms:

List of abbreviations and acronyms that can be used (but not necessarily used) in this material safety data sheet:

- # *REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.*
- # *DSD: Dangerous Substances Directive.*
- # *DPD: Dangerous Preparations Directive.*
- # *GHS: Globally Harmonized System of Classification and Labelling of Chemicals of the United Nations.*
- # *CLP: European regulation on Classification, Labelling and Packaging of substances and chemical mixtures.*
- # *EINECS: European Inventory of Existing Commercial Chemical Substances.*
- # *ELINCS: European List of Notified Chemical Substances.*
- # *CAS: Chemical Abstracts Service (Division of the American Chemical Society).*
- # *UVCB: Substances of Unknown or Variable composition, complex reaction products or biological materials).*
- # *SVHC: Substances of Very High Concern.*
- # *PBT: Persistent, bioaccumulable and toxic substances.*
- # *vPvB: Very persistent and very bioaccumulable substances.*
- # *VOC: Volatile Organic Compounds.*
- # *DNEL: Derived No-Effect Level (REACH).*
- # *PNEC: Predicted No-Effect Concentration (REACH).*
- # *LD50: Letal dose, 50 percent.*
- # *LC50: Letal concentration, 50 percent.*
- # *UN: United Nations Organisation.*
- # *ADR: European agreement concerning the international carriage of dangerous goods by road.*
- # *RID: Regulations concerning the international transport of dangerous goods by rail.*
- # *IMDG: International Maritime code for Dangerous Goods.*
- # *IATA: International Air Transport Association.*
- # *ICAO: International Civil Aviation Organization.*

Material safety data sheet regulations:

Material Safety Data Sheet in accordance with Article 31 of Regulation (EC) No. 1907/2006 (REACH) and Annex of Regulation (EU) No. 2015/830.

History	Revision
Version 0.0	01/03/2018

Modifications with respect to the previous Material Safety Data Sheet:

The possible legislative, contextual, numerical, methodological and normative changes with respect to the previous version are highlighted in this Material Safety Data Sheet by a mark # in red and italic.

The information of this Material Safety Data Sheet, is based on the present state of knowledge and on current UE and national laws, as the users' working conditions are beyond our knowledge and control. The product is not to be used for other purposes than those specified, without first obtaining written handling instruction. It is always the responsibility of the user to take all necessary steps in order to fulfil the demand laid down in the local rules and legislation. The information in this Material Safety Data Sheet is meant as a description of the safety requirements of the product and it is not to be considered as a guarantee of the product's properties.

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Hardener anti graffiti
Codes: (NSYAUPG1G, NSYAUPG5G)

1.2. Relevant identified uses and uses advised against

- Intended uses (main technical functions): hardener, in combination with hydroxylated polymers, mainly polyesters and polyacrylates, in order to prepare 2 component systems.
- Sectors of use: industrial manufacturing (SU3).
- Uses advised against: this product is not recommended for any use or sector of use industrial, professional or consume other than those previously listed as "Intended or identified uses". If your use is not covered, please contact the supplier of this material safety data sheet.
- Restrictions on manufacture, placing on market and use, according to Annex XVII of Regulation (EC) No. 1907/2006: not restricted.

1.3. Details of the supplier of the safety data sheet

Schneider Electric Industries SAS

Le Hive
35 rue Joseph Monier - CS 30323
F-92506 Rueil Malmaison Cedex
Tel. +33 (0) 4 76 57 60 60
e-mail from the person in charge of MSDS: centre-service-client@fr.schneider-electric.com

1.4. Emergency telephone number

- | | | |
|---|--|---|
| <u>Austria</u> : +43 (0) 1 406 43 43 | <u>Romania</u> : +40 21 318 36 06 | <u>Hungary</u> : +36 80 20 11 99 |
| <u>Bulgaria</u> : 112 | <u>Slovenia</u> : 112 | <u>Latvia</u> : +371 67042473 |
| <u>Cyprus</u> : 1401 | <u>Sweden</u> : 112 ^[3] | <u>Luxembourg</u> : 112 |
| <u>Denmark</u> : +45 82 12 12 12 ^[1] | <u>Iceland</u> : 112 | <u>Netherlands</u> : +31 (0)30-2748888 ^[2] |
| <u>Finland</u> : +358 (0)9 471977 | <u>Norway</u> : +47 22 59 13 00 | <u>Portugal</u> : +351 808 250 143 |
| <u>Greece</u> : +30 210 7793777 | <u>Belgium</u> : +32 (0) 70 245 245 | <u>Slovakia</u> : +421 2 5477 4166 |
| <u>Italy</u> : +39 (0)55 7947819 | <u>Croatia</u> : +385 (0)1-23-48-342 | <u>Spain</u> : 112 |
| <u>Lithuania</u> : +370 687 53378 | <u>Czech Republic</u> : +420 224919293 | <u>United Kingdom</u> : 111 (UK only) |
| <u>Malta</u> : 112 | <u>Estonia</u> : 16662 | <u>Liechtenstein</u> : 145 |
| <u>Poland</u> : 112 | <u>France</u> : +33 (0)1 45 42 59 59 | <u>Switzerland</u> : 145 |

[1] Kontakt Giftlinien på tif.nr.: 82 12 12 12 (äbent 24 timer i døgnet). Se punkt 4 om førstehjælp.

[2] Only for the purpose of informing medical personnel in cases of acute intoxications.

[3] Ask for Poison Information.

Section 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification in accordance with Regulation (EC) No. 1272/2008~487/2013 (CLP) :

WARNING: Flam. Liq. 3:H226
Acute Tox. (inh.) 4:H332
Skin Irrit. 2:H315
Eye Irrit. 2:H319
Skin Sens. 1:H317
STOT SE (irrit.) 3:H335
STOT RE 2:H373i

Danger class	Classification of the mixture	Cat.	Routes of exposure	Target organs	Effects
Physicochemical 	Flam. Liq. 3:H226 Acute Tox. (inh.) 4:H332 Skin Irrit. 2:H315 Eye Irrit. 2:H319	Cat.3 Cat.4 Cat.2 Cat.2	- Inhalation Skin Eyes	- - Skin Eyes	- Harmful Irritation Irritation
Human health 	Skin Sens. 1:H317 STOT SE (irrit.) 3:H335 STOT RE 2:H373i	Cat.1 Cat.3 Cat.2	Skin Inhalation Inhalation	Skin Respiratory ways Systemic	Allergy Irritation Damage
Environment Not classified					

Full text of hazard statements mentioned is indicated in section 16.

2.2. Label elements



This product is labelled with the signal word DANGER in accordance with Regulation (EC) No. 1272/2008~487/2013 (CLP).

HARDENER ANTI GRAFFITI (codes: NSYAUPG1G, NSYAUPG5G)

Hazard statements:

- H226: flammable liquid and vapour.
- H373i: may cause damage to organs through prolonged or repeated exposure if inhaled.
- H332: harmful if inhaled.
- H319: causes serious eye irritation.
- H335: may cause respiratory irritation.
- H315: causes skin irritation.
- H317: may cause an allergic skin reaction.

Precautionary statements:

- P210: keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P243: take precautionary measures against static discharge.
- P260: do not breathe vapour, spray.
- P264a: wash the hands thoroughly after handling.
- P280B: wear protective gloves and eye protection .
- P363: wash contaminated clothing before reuse.
- P303 + P361 + P353 - P352 - P312: IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water. Call a POISON CENTER or doctor if you feel unwell.
- P304 + P340 - P312 IF INHALED: remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
- P501c: dispose of contents/container as hazardous waste.

Supplementary statements:

- EUH204: contains isocyanates, may produce an allergic reaction.

Hazardous ingredients:

HDI oligomers, biuret
Xylene (mixture of isomers)
Ethylbenzene
Hexamethylene-1,6-diisocyanate

2.3. Other hazards

Hazards which do not result in classification but which may contribute to the overall hazards of the mixture:

- Other physicochemical hazards: vapours may form with air a mixture potentially flammable or explosive.
- Other adverse human health effects: people with hypersensitive respiratory tract (by instance, asthma or chronic bronchitis) should not handle this product. The symptoms in the respiratory tract may appear even last few hours of excessive exposure. The major dangers for respiratory ways are the dust, vapours or aerosols. Prolonged exposure to vapours may produce transient drowsiness. In case of prolonged contact, the skin may become dry.
- Other negative environmental effects: does not contain substances that fulfil the PBT/vPvB criteria.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances




Not applicable (mixture).

3.2. Mixtures

This product is a mixture.

- Chemical description: solution of hdi oligomers, biuret.

Ingredients:

Danger	Hazardous substances	Concentration (%m/m)	Classification
	HDI oligomers, biuret CAS: 28182-81-2 List No. 939-340-8 REACH: 01-2119970543-34 Autoclassified	70 < 80 %	CLP: Warning: Acute Tox. (inh.) 4:H332 Skin Sens. 1:H317 STOT SE (irrit.) 3:H335 < REACH
	2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9 REACH: 01-2119475791-29 Index No. 607-195-00-7	10 < 15 %	CLP: Warning Flam. Liq. 3:H226 < REACH / ATP01
	Xylene (mixture of isomers) CAS: 1330-20-7 EC: 215-535-7 REACH: 01-2119488216-32 Index No. 601-022-00-9	5 < 10 %	CLP: Danger Flam. Liq. 3:H226 Acute Tox. (inh.) 4:H332 Acute Tox. (skin) 4:H312 Skin Irrit. 2:H315 Eye Irrit. 2:H319 STOT SE (irrit.) 3:H335 STOT RE 2:H373i Asp. Tox. 1:H304 < REACH

HARDENER ANTI GRAFFITI (codes: NSYAUPG1G, NSYAUPG5G)

	<p>Ethylbenzene CAS: 100-41-4 EC: 202-849-4 REACH: 01-2119489370-35 Index No. 601-023-00-4</p>	<p>1 < 3 %</p>	<p>CLP: Danger Flam. Liq. 2:H225 Acute Tox. (inh.) 4:H332 STOT RE 2:H373iE Asp. Tox. 1:H304 < REACH / ATP06</p>
	<p>Hexamethylene-1,6-diisocyanate CAS: 822-06-0 EC: 212-485-8 REACH: 01-2119457571-37 Index No. 615-011-00-1</p>	<p>< 0,5 %</p>	<p>CLP: Danger Acute Tox. (inh.) 1:H330 Acute Tox. (oral) 4:H302 Skin Irrit. 2:H315 Eye Irrit.2:H319 Resp. Sens. 1:H334 Skin Sens. 1:H317 STOT SE (irrit.) 3:H335 < REACH</p>

- **Impurities:** does not contain other components or impurities which will influence the classification of the product.
- **Stabilizers:** none.
- **Reference to other sections:** for more information on hazardous ingredients, see sections 8, 11, 12 and 16.

Substances of very high concern (SVHC):

List updated by ECHA on 15/06/2015.

- **Substances SVHC subject to authorisation, included in Annex XIV of Regulation (EC) no. 1907/2006:** none.
- **Substances SVHC candidate to be included in Annex XIV of Regulation (EC) no. 1907/2006:** none.

Persistent, bioaccumulable and toxic PBT, or very persistent and very bioaccumulable vPvB substances:

Does not contain substances that fulfill the PBT/vPvB criteria.

Section 4. FIRST AID MEASURES

4.1. Description of first-aid measures and main symptoms and effects, acute and delayed



Symptoms may occur after exposure, so that in case of direct exposure to the product, when in doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. Lifeguards should pay attention to self-protection and use the recommended protective equipment if there is a possibility of exposure. Wear protective gloves when administering first aid.

Route of exposure	Symptoms and effects, acute and delayed	Description of first-aid measures
<p>Inhalation</p>	<p>Inhalation of solvent vapours may produce headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, unconsciousness. Inhalation produces irritation to mucus, coughing and breathlessness.</p>	<p>Remove the patient out of the contaminated area into the fresh air. If breathing is irregular or stops, administer artificial respiration. If the person is unconscious, place in appropriate recovery position. Keep the patient warm and at rest until medical attention arrives.</p>
<p>Skin</p>	<p>Skin contact causes redness. In case of prolonged contact, the skin may become dry.</p>	<p>Remove immediately contaminated clothing. Wash thoroughly the affected area with plenty of cold or lukewarm water and neutral soap, or use a suitable skin cleanser. Do not use solvents or thinners. In the case of skin reddening or rashes, contact a doctor immediately.</p>
<p>Eyes</p>	<p>Contact with the eyes produces redness and pain.</p>	<p>Remove contact lenses. Rinse eyes copiously by irrigation with plenty of clean, fresh water for at least 15 minutes, holding the eyelids apart, until the irritation is reduced. Call a physician immediately.</p>
<p>Ingestion</p>	<p>If swallowed, may cause irritation of the throat, abdominal pain, drowsiness, nausea, vomiting and diarrhoea.</p>	<p>If swallowed, seek immediate medical attention. Do not induce vomiting, due to the risk of aspiration. Keep the patient at rest.</p>

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

Notes to physician:

Treatment should be directed at the control of symptoms and the clinical condition of the patient.

Antidotes and contraindications:

Specific antidote not known.

Section 5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Extinguishing powder or CO₂. In the case of more important fires, also alcohol resistant foam and water spray/mist. Do not use for extinguishing: direct water jet. Direct water jet may not be effective to extinguish the fire, since the fire may spread.

5.2. Special hazards arising from the substance or mixture

Fire can produce a dense black smoke. As consequence of combustion or thermal decomposition, hazardous products may be produced: carbon monoxide, carbon dioxide, nitrogen oxides, isocyanate vapours, traces of hydrocyanic acid. Exposure to combustion or decomposition products may be a hazard to health.

5.3. Advice for firefighters

Special protective equipment:

Depending on magnitude of fire, heat-proof protective clothing may be required, appropriate independent breathing apparatus, gloves, protective glasses or face masks and boots. If the fire-proof protective equipment is not available or not used, combat fire from a sheltered position or at a safe distance. The standard EN469 provides a basic level of protection for chemical incidents.

Other recommendations:

Cool with water the tanks, cisterns or containers close to sources of heat or fire. Bear in mind the direction of the wind. Do not allow fire-fighting residue to enter drains, sewers or water courses.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Eliminate possible sources of ignition and when appropriate, ventilate the area. Do not smoke. Avoid direct contact with this product. Avoid breathing vapours. Keep people without protection in opposition to the wind direction.

6.2. Environmental precautions

Avoid contamination of drains, surface or subterranean water and soil. In the case of large scale spills or when the product contaminates lakes, rivers or sewages, inform the appropriate authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Contain and mop up spills with non-combustible absorbent materials (earth, sand, vermiculite, diatomaceous earth, etc..). The contaminated area should be cleaned up immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises: water, ethanol or isopropanol and concentrated ammonia solution (d=0,880) = 45/50/5 parts by volume. Another possible (non-flammable) decontaminant is made up of water and sodium carbonate = 95/5 parts by weight. Add the same decontaminant to any residues and allow to stand for several days in an un-sealed container until no further reaction occurs. Keep the remains in a closed container.

6.4. Reference to other sections

- For contact information in case of emergency, see section 1.
- For information on safe handling, see section 7.
- For exposure controls and personal protection measures, see section 8.
- For subsequent waste disposal, follow the recommendations in section 13.

Section 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Comply with the existing legislation on health and safety at work.

General recommendations:

Avoid any type of leakage or escape. Keep the container tightly closed.

Recommendations for the prevention of fire and explosion risks:

Vapours are heavier than air, may spread along floors to a considerable distance, can form explosive mixtures with air and are able to reach distant ignition sources and flame up or explode. Due to its flammability, this material should only be used in areas from which all naked lights and other sources of ignition have been excluded and away from other heat or electrical sources. Switch mobile phones off and do not smoke. The zones with risk of explosion should be marked. Use instruments, systems and protective equipment adequate to the classification of zones, according to the health and safety at work laws, in accordance with Directive 94/9/EC and 99/92/EC. Electrical equipment should be protected to the appropriate standard. No tools with a potential for sparks should be used. Elaborate the document "Protection against explosions".

Flash point	Autoignition temperature	Upper/lower flammability or explosive limits	Upper/lower flammability or explosive limits
39.°C	430.°C	1.3 - 8.8% Volume 25°C	0.9 - 11.7% Volume 300°C

Recommendations for the prevention of toxicological risks:

People with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which isocyanate containing products are used. Do not eat, drink or smoke while handling. After handling, wash hands with soap and water. For exposure controls and personal protection measures, see section 8.

Recommendations for the prevention of environmental contamination:

It is not considered a danger to the environment. In the case of accidental spillage, follow the instructions indicated in section 6.

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7.2. Conditions for safe storage, including any incompatibilities

Prevent unauthorized access. Keep away from food, drink and animal foodstuffs. This product should be stored isolated from heat and electrical sources. Do not smoke in storage area. If possible, avoid direct contact with sunlight. Avoid extreme humidity conditions. Precautions should be taken to minimise exposure to atmospheric humidity or water, as carbon dioxide may be formed which, in closed containers can result in pressurisation. Care should be taken when re-opening partly used containers. Due to the sensitivity to humidity of the isocyanates, this product should be kept in the original container, or under pressure of dried nitrogen, for example. In order to avoid leakages, the containers, after use, should be closed carefully and placed in a vertical position. For more information, see section 10.

Class of store	Maximum storage period	Temperature interval	Incompatible materials	Type of packaging	Limit quantity (Seveso III): Directive 96/82/EC~2003/105/EC
According to current legislation	12. months	min: 5. °C, max: 35. °C (recommended)	Keep away from oxidizing agents, from strongly alkaline and strongly acid materials	According to current legislation	Lower threshold: 5000 tons , Upper threshold: 50000 tons

7.3. Specific end uses

For the use of this product do not exist particular recommendations apart from that already indicated.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

If a product contains ingredients with exposure limits, may be necessary a personnel monitoring, work place or biological, to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to EN689, EN14042 and EN482 standard concerning methods for assessing the exposure by inhalation to chemical agents, and exposure to chemical and biological agents. Reference should be also made to national guidance documents for methods for the determination of dangerous substances.

Occupational exposure limit values (TLV):

AGCIH 2013	Year	TLV-TWA		TLV-STEL		Observations
		ppm	mg/m ³	ppm	mg/m ³	
2-methoxy-1-methylethyl acetate		50.	275.	100.	550.	Vd
Xylene (mixture of isomers)	1996	100.	434.	150.	651.	Recommended
Ethylbenzene	2002	100.	434.	125.	543.	A4
Hexamethylene-1,6-diisocyanate	1988	0.005.	0.034	-	-	A3

TLV - Threshold Limit Value

TWA - Time Weighted Average

STEL - Short Term Exposure Limit.

Vd - Dermal.

A3 - Carcinogenic in animals.

A4 - Non classified as carcinogenic in humans.

Dermal (Vd):

Means that, in exposures to this substance, the contribution by the cutaneous route, including the mucous membranes and eyes, may result significant for the overall body content if no measures are taken to prevent absorption. There are some chemicals for which dermal absorption, both in liquid and vapour phases, can be very high, and this route of entry may be or equal or greater importance even that inhalation pathway. In these situations, the use of a biological control is essential in order to quantify the overall amount of contaminant absorbed.

Biological limit values:

Not established.

Derived no-effect level (DNEL):

Derived no-effect level (DNEL) is a level of exposure that is considered safe, derived from toxicity data according to specific guidances included in REACH. DNEL values may differ from a occupational exposure limit (OEL) for the same chemical. OEL values may come recommended by a particular company, a government regulatory agency or an organization of experts. Although considered protective of health, the OEL values are derived by a process different of REACH.

Derived no-effect level, workers (systemic effects, acute and chronic)	DNEL Inhalation (mg/m ³)		DNEL Cutaneous (mg/kg bw/d)		DNEL Oral (mg/kg bw/d)	
	s/r (a)	s/r (c)	s/r (a)	s/r (c)	- (a)	- (c)
HDI oligomers, biuret	s/r (a)	s/r (c)	s/r (a)	s/r (c)	- (a)	- (c)
2-methoxy-1-methylethyl acetate	- (a)	275. (c)	- (a)	154. (c)	- (a)	- (c)
Xylene (mixture of isomers)	289. (a)	77.0 (c)	s/r (a)	180. (c)	- (a)	- (c)
Ethylbenzene	s/r (a)	77.0 (c)	s/r (a)	180. (c)	- (a)	- (c)
Hexamethylene-1,6-diisocyanate	0.0700 (a)	0.0350 (c)	- (a)	- (c)	- (a)	- (c)

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Derived no-effect level, workers (local effects, acute and chronic)	DNEL Inhalation (mg/m ³)		DNEL Cutaneous (mg/cm ²)		DNEL Eyes (mg/cm ²)	
HDI oligomers, biuret	1.00 (a)	0.500 (c)	m/r (a)	m/r (c)	s/r (a)	- (c)
2-methoxy-1-methylethyl acetate	- (a)	- (c)	- (a)	- (c)	- (a)	- (c)
Xylene (mixture of isomers)	289. (a)	s/r (c)	s/r (a)	s/r (c)	- (a)	- (c)
Ethylbenzene	293. (a)	s/r (c)	s/r (a)	s/r (c)	- (a)	- (c)
Hexamethylene-1,6-diisocyanate	0.0700 (a)	0.0350 (c)	- (a)	- (c)	- (a)	- (c)

Derived no-effect level, general population:

Not applicable (product for industrial use).

(a) - Acute, short-term exposure

(c) - Chronic, long-term or repeated exposure.

(-) - DNEL not available (without data of registration REACH).

s/r - DNEL not derived (not identified hazard).

m/r - DNEL not derived (medium hazard).

Predicted no-effect concentration (PNEC):

Predicted no-effect concentration, aquatic organisms (fresh water, marine water and intermittent release)	PNEC Fresh water (mg/l)	PNEC Marine (mg/l)	PNEC Intermittent (mg/l)
HDI oligomers, biuret	s/r	s/r	s/r
2-methoxy-1-methylethyl acetate	0.635	0.0635	6.35
Xylene (mixture of isomers)	0.327	0.327	0.327
Ethylbenzene	0.100	0.0100	0.100
Hexamethylene-1,6-diisocyanate	0.0774	0.00774	0.774

Predicted no-effect concentration, aquatic organisms (wastewater treatment plants (STP) and sediments in fresh- and marine water)	PNEC STP (mg/l)	PNEC Sediments (mg/kg dry weight)	PNEC Sediments (mg/kg dry weight)
HDI oligomers, biuret	6.46	s/r	s/r
2-methoxy-1-methylethyl acetate	100.	3.29	0.329
Xylene (mixture of isomers)	6.58	12.5	12.5
Ethylbenzene	9.60	13.7	13.7
Hexamethylene-1,6-diisocyanate	8.42	0.0133	0.00133

Predicted no-effect concentration, terrestrial organisms (air, soil and effects for predators and humans)	PNEC Air (mg/m ³)	PNEC Soil (mg/kg dry weight)	PNEC Oral (mg/kg bw/d)
HDI oligomers, biuret	s/r	s/r	n/b
2-methoxy-1-methylethyl acetate	-	0.290	-
Xylene (mixture of isomers)	-	2.31	-
Ethylbenzene	-	2.68	20.0
Hexamethylene-1,6-diisocyanate	-	0.00260	-

(-) - PNEC not available (without data of registration REACH).

s/r - PNEC not derived (not identified hazard).

n/b - PNEC not derived (not bioaccumulative potential).

8.2. Exposure controls

Engineering measures:






Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these measures are not sufficient to maintain concentrations of particulates and vapours below the Occupational Exposure Limits, suitable respiratory protection must be worn.

- **Protection of respiratory system:** avoid the inhalation of vapours. Avoid the inhalation of particles or spray mist arising from the application of this preparation.
- **Protection of eyes and face:** it is recommended to install emergency eye baths close to the working area.
- **Protection of hands and skin:** it is recommended to install emergency showers close to the working area. Barrier creams may help to protect the exposed areas of the skin. Barrier creams should not be applied once exposure has occurred.

Occupational exposure controls, directive 89/686/EEC~96/58/EC:

As a general measure on prevention and safety in the work place, we recommend the use of a basic personal protection equipment (PPE), with the corresponding EC marking. For more information on personal protective equipment (storage, use, cleaning, maintenance, type and characteristics of the PPE, protection class, marking, category, CEN norm, etc..), you should consult the informative brochures provided by the manufacturers of PPE.

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 Mask	In order to obtain a suitable protection level, the filter class must be selected depending on the type and concentration of the contaminating agents present, in accordance with the specifications supplied by the filter producers. If the working area is insufficiently ventilated, when operators, whether spraying or not, are inside the spraybooth, compressed air-fed respiratory protective equipment (EN14387) is required. For short periods of work, you can consider the utilisation of a combination mask with gas and particle filters, type A2-P2 (EN141/EN143).
 Goggles	Safety goggles designed to protect against liquid splashes, with suitable lateral protection (EN166). Clean daily and disinfect at regular intervals in accordance with the instructions of the manufacturer.
Face shield	No.
 Gloves	Gloves resistant against chemicals (EN374). When it can be a repeated or prolonged contact, it is recommended to use gloves with a protection level 5 or higher, with a breakthrough time >240 min. When you only expects a short contact, it is recommended to use gloves with a protection level 2 or higher, with a breakthrough time >30 min. The breakthrough time of the selected glove material should be in accordance with the pretended period of use. There are several factors (for example, temperature), they do in practice the period of use of a protective gloves resistant against chemicals is clearly lower than the established standard EN374. Due to the wide variety of circumstances and possibilities, we must have in mind the manual of instructions from manufacturers of gloves. Use the proper technique of removing gloves (without touching glove's outer surface) to avoid contact of the product with the skin. The gloves should be immediately replaced when any sign of degradation is noted.
Boots	No.
Apron	No.
Clothing	It is advisable personnel wear antistatic clothing made of natural fibre or high temperature resistant synthetic fibre.

Thermal hazards:

Not applicable (the product is handled at room temperature).

Environmental exposure controls:

Avoid any spillage in the environment. Avoid any release into the atmosphere.

- **Spills on the soil:** prevent contamination of soil.
- **Spills in water:** do not allow to escape into drains, sewers or water courses.
- **Emissions to the atmosphere:** because of volatility, emissions to the atmosphere while handling and use may result. Avoid any release into the atmosphere. Emissions from ventilation equipment or work processes should be evaluated to verify compliance with the requirements of the legislation on the prevention of environment. In some cases it will be necessary to use fume scrubbers, filters or modifications in the design of process equipment to reduce emissions to an acceptable level.
- **VOC (industrial installations):** it must be verified if it is applicable the Directive 1999/13/EC, on the limitation of emissions of volatile compounds due to the use of organic solvents in certain activities and installations: Solvents : 25.0% Weight , VOC (supply) : 25.0% Weight , VOC : 18.1% C (expressed as carbon) , Molecular weight (average) : 119.7 , Number C atoms (average) : 7.2.

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 available (mixture)
pH-value	pH	Not applicable
Change of state	Melting point	Not applicable (mixture)
	Initial boiling point	136.2°C at 760 mmHg
Density	Vapour density	3.9 at 20°C 1 atm. - Relative air
	Relative density	1.07 at 20/4°C - Relative water
Stability	Decomposition temperature	136.°C
Viscosity	Dynamic viscosity	230. ± 100. cps 20°C
	Kinematic viscosity	74. mm ² /s at 40°C
	Kinematic viscosity	# 215. ± 85. # cSt 20°C
Volatility	Vapour pressure	5.3 mmHg at 20°C
	Vapour pressure	3.6 kPa at 50°C
Solubility(ies)	Solubility in water	Miscible
	Solubility in oils and fats	Not available
Flammability	Flash point	39. °C
	Upper/lower flammability or explosive limits	1.3 - 8.8 % Volume 25°C
	Upper/lower flammability or explosive limits	0.9 - 11.7 % Volume 300°C
	Autoignition temperature	430. °C

Explosive properties:

Vapours can form explosive mixtures with air and are able to flame up or explode in presence of an ignition source.

Oxidizing properties:

Not classified as oxidizing product.

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9.2. Other information

Heat of combustion	5156. Kcal/kg
Solids	75. % Weight 30'130°C
Isocyanates	0.15 % NCO s/total
VOC (supply)	25.0 % Weight
VOC (supply)	267.5 g/l

The values indicated do not always coincide with product specifications. The data for the product specifications can be found in the technical data sheet of the same. For additional information concerning physical and chemical properties related to safety and environment, see sections 7 and 12.

Section 10. STABILITY AND REACTIVITY

10.1. Reactivity

- Corrosivity to metals: it is not corrosive to metals.
- Pyrophorical properties: it is not pyrophoric.

10.2. Chemical stability

Stable under recommended storage and handling conditions.

10.3. Possibility of hazardous reactions

Possible dangerous reaction with water, oxidizing agents, acids, alkalis, amines, alcohols. Exothermic reaction with amines and alcohols. Reacts with water under evolution of CO₂.

10.4. Conditions to avoid

- Heat: keep away from sources of heat.
- Light: if possible, avoid direct contact with sunlight.
- Air: not applicable.
- Humidity: avoid humidity. Precautions should be taken to minimise exposure to atmospheric humidity or water, as carbon dioxide may be formed which, in closed containers can result in pressurisation.
- Pressure: not applicable.
- Shock: not applicable.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

As consequence of thermal decomposition, hazardous products may be produced, including isocyanates.

Section 11. TOXICOLOGICAL INFORMATION

No experimental toxicological data on the preparation is available. The toxicological classification for these mixture has been carried out by using the conventional calculation method of the Regulation (EC) No. 1272/2008~487/2013 (CLP).


11.1. Information on toxicological effects

Acute toxicity:

Dose and lethal concentrations (for individual ingredients)	DL50 (OECD 401) (mg/kg oral)	DL50 (OECD 402) (mg/kg cutaneous)	CL50 (OECD 403) (mg/m ³ .4h inhalation)
HDI oligomers, biuret	> 5000. Rat	15800. Rabbit	> 402. Rat
2-methoxy-1-methylethyl acetate	8532. Rat	> 5000. Rat	> 35700. Rat
Xylene (mixture of isomers)	4300. Rat	1700. Rabbit	> 22080. Rat
Ethylbenzene	3500. Rat	15400. Rabbit	> 17400. Rat
Hexamethylene-1,6-diisocyanate	738. Rat	593. Rabbit	> 310. Rat

- No observed adverse effect level: not available.
- Lowest observed adverse effect level: not available.

Information on likely routes of exposure, acute toxicity:

Route of exposure	Acute toxicity	Cat.	Main effects, acute and/or delayed
Inhalation 	ETA : 12695. mg/m ³	Cat.4	HARMFUL: harmful if inhaled vapours.
Skin Not classified	ETA > 2000 mg/kg	-	Not classified as a product with acute toxicity in contact with skin (based on available data, the classification criteria are not met).
Eyes Not classified	Not available	-	Not classified as a product with acute toxicity by eye contact (lack of data).
Ingestion Not classified	ETA > 5000 mg/kg	-	Not classified as a product with acute toxicity if swallowed (based on available data, the classification criteria are not met).

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Corrosion / irritation / sensitisation:

Danger class	Target organs	Cat.	Main effects, acute and/or delayed
 Respiratory corrosion/irritation	Respiratory ways 	Cat.3	IRRITANT: may cause respiratory irritation.
 Skin corrosion/irritation	Skin 	Cat.2	IRRITANT: causes skin irritation.
 Serious eye damage/irritation	Eyes 	Cat.2	IRRITANT: causes serious eye irritation.
Respiratory sensitisation Not classified	-	-	Not classified as a product sensitising by inhalation (based on available data, the classification criteria are not met).
 Skin sensitisation	Skin 	Cat.1	SENSITISING: may cause an allergic skin reaction.

Aspiration hazard:

Danger class	Target organs	Cat.	Main effects, acute and/or delayed
Aspiration hazard Not classified	-	-	Not classified as a product hazardous by aspiration (based on available data, the classification criteria are not met).

Specific target organs toxicity (STOT), single exposure (SE) and/or repeated exposure (RE):

Not classified as a dangerous product for target organs (based on available data, the classification criteria are not met).

CMR effects:

- Carcinogenic effects: is not considered as a carcinogenic product.
- Genotoxicity: is not considered as a mutagenic product.
- Toxicity for reproduction: do not harm fertility. Do not harm the fetus developing.
- Effects via lactation: not classified as a hazardous product for children breast-fed.

Section 12. ECOLOGICAL INFORMATION

No experimental ecotoxicological data on the preparation as such is available. The ecotoxicological classification for these mixture has been carried out by using the conventional calculation method of the Regulation (EC) No. 1272/2008~487/2013 (CLP).

12.1. Toxicity

Acute toxicity in aquatic environment (for individual ingredients)	CL50 (OECD 203) (mg/l.96 hours)	CE50 (OECD 202) (mg/l.48 hours)	CE50 (OECD 201) (mg/l.72 hours)
HDI oligomers, biuret	> 100. Fishes	> 100. Daphnia	> 100. Algae
2-methoxy-1-methylethyl acetate	134. Fishes	408. Daphnia	> 1000. Algae
Xylene (mixture of isomers)	14. Fishes	16. Daphnia	> 10. Algae
Ethylbenzene	12. Fishes	1.8 Daphnia	33. Algae
Hexamethylene-1,6-diisocyanate			77. Algae

No observed effect concentration	NOEC (OECD 210) (mg/l.28 days)	NOEC (OECD 211) (mg/l.21 days)
2-methoxy-1-methylethyl acetate		> 100. Daphnia

Lowest observed effect concentration:

Not available.

12.2. Persistence and degradability

Not available.

Aerobic biodegradation (for individual ingredients)	DQO (mgO ₂ /g)	% DBO/DQO			Biodegradability
		5 days	14 days	28 days	
HDI oligomers, biuret				1.	Not easy
2-methoxy-1-methylethyl acetate	1520.	~ 22.	~ 78.	~ 90.	Easy
Xylene (mixture of isomers)	2620.	~ 52.	~ 81.	~ 88.	Easy
Ethylbenzene	3164.	~ 30.	~ 68.	~ 79.	Easy
Hexamethylene-1,6-diisocyanate			20.	42.	Not easy

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12.3. Bioaccumulative potential

Not available.

Bioaccumulation (for individual ingredients)	logPow	BCF (L/kg)	Potential
HDI oligomers, biuret		3.2 (calculated)	No bioaccumulable
2-methoxy-1-methylethyl acetate	0.560	3.2 (calculated)	No bioaccumulable
Xylene (mixture of isomers)	3.16	57. (calculated)	Low
Ethylbenzene	3.15	56. (calculated)	Low
Hexamethylene-1,6-diisocyanate	3.20	60. (calculated)	Low

12.4. Mobility in soil

Not available.

12.5. Results of PBT and vPvB assesment, annex XIII of regulation (ec) no. 1907/2006

Does not contain substances that fulfill the PBT/vPvB criteria.

12.6. Other adverse effects

- Ozone depletion potential: not available.
- Photochemical ozone creation potential: not available.
- Earth global warming potential: in case of fire or incineration liberates CO₂.
- Endocrine disrupting potential: not available.

Section 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods, Directive 2008/98/EC

Take all necessary measures to prevent the production of waste whenever possible. Analyse possible methods for revaluation or recycling. Do not discharge into drains or the environment, dispose of at an authorised waste collection point. Waste should be handled and disposed of in accordance with current local and national regulations. For exposure controls and personal protection measures, see section 8.

LER code, Decision 2000/532/EC:

- 080102: Wastes of paints and varnishes not containing halogenated solvents. ELW (European List of Waste) code, is provided only for orientation, in accordance with the product composition and intended uses. The end user is responsible for the correct classification of resulting waste, having in mind its use, contamination or modifications performed.

Disposal of empty containers, Directive 94/62/EC~2005/20/EC, Decision 2000/532/EC:

Emptied containers and packaging should be disposed of in accordance with currently local and national regulations. The classification of packaging as hazardous waste will depend on the degree of emptying of the same, being the holder of the residue responsible for their classification, in accordance with Chapter 15 01 of Decision 2000/532/EC, and forwarding to the appropriate final destination. With contaminated containers and packaging, adopt the same measures as for the product in itself.

Procedures for neutralising or destroying the product:

Controlled incineration in special facilities for chemical waste, but in accordance with local regulations.

Section 14. TRANSPORT INFORMATION

14.1. UN number


1263.

14.2. UN proper shipping name


Paint.

14.3. Transport hazard class(es) and packing group


Transport by road (ADR 2015) and transport by rail (RID 2015):

Class	3	
Packaging group	III	
Classification code	F1	
Tunnel restriction code	(D/E)	
Transport category	3, max. ADR 1.1.3.6. 1000 L	
Limited quantities	5 L (see total exemptions ADR 3.4)	
Transport document	Consignment paper	
Instructions in writing	ADR 5.4.3.4	

Transport by sea (IMDG 36-12):

Class	3	
Packaging group	III	
Emergency Sheet (EmS)	F-E, S E	
First Aid Guide (MFAG)	310,313	
Marine pollutant	No.	
Transport document	Shipping Bill of lading	

Transport by air (ICAO/IATA 2014):

Class	3	
Packaging group	III	
Transport document	Air Bill of lading	

Transport by inland waterways (ADN):

Not available.

14.4. Environmental hazards

Not applicable (not classified as hazardous for the environment).

14.5. Special precautions for user

Ensure that persons transporting the product know what to do in case of accident or spill. Always transport in closed containers that are in a vertical position and sure. Ensure adequate ventilation.

14.6. Transport in bulk according to annex II of marpol 73/78 and the IBC code

Not available.

Section 15. REGULATORY INFORMATION

15.1. EU safety, health and environmental regulations/legislation specific

The regulations applicable to this product generally are listed throughout this material safety data sheet.

- Restrictions on manufacture, placing on market and use: see section 1.2.
- Control of the risks inherent in major accidents (Seveso III): see section 7.2.
- Tactile warning of danger: not applicable (product for industrial use).
- Child safety protection: not applicable (the classification criteria are not met).
- VOC information on the label: for use in installations falling under the scope of Directive 1999/13/EC only.
- Other regulations: not available.

15.2. Chemical safety assessment

For this mixture has not been carried out a chemical safety assessment.

Section 16. OTHER INFORMATION

16.1. Text of the phrases and notes referenced in sections 2 and/or 3

Hazard statements according the Regulation (EC) No. 1272/2008~487/2013 (CLP), Annex III:

- H225: highly flammable liquid and vapour.
- H226: flammable liquid and vapour.
- H302: harmful if swallowed.
- H304: may be fatal if swallowed and enters airways.
- H312: harmful in contact with skin.
- H315: causes skin irritation.
- H317: may cause an allergic skin reaction.
- H319: causes serious eye irritation.
- H330: fatal if inhaled.
- H332: harmful if inhaled.
- H334: may cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335: may cause respiratory irritation.
- H373i: may cause damage to organs through prolonged or repeated exposure if inhaled.
- H373iE: may cause damage to hearing organs through prolonged or repeated exposure if inhaled.

Indications for preparations containing isocyanates:

Ready-to-use preparations containing isocyanates may have an irritant effect on mucous membranes -especially on breathing organs- and cause hypersensitivity reactions. Inhalation of vapour or spray mist may cause sensitisation. When handling preparations containing isocyanates all precautions required for solvent-containing preparations must be followed. Vapour and spray mist in particular should not be inhaled. Allergics and asthmatics, as well as people prone to respiratory ailments should not work with isocyanate-containing preparations.

Advices on any training appropriate for workers:

It is recommended for all staff that will handle this product to carry out a basic training in occupational risk and prevention, in order to provide understanding and interpretation of material safety data sheets and labelling of products as well.

HARDENER ANTI GRAFFITI (codes: NSYAUPG1G, NSYAUPG5G)

Main literature references and sources for data:

- European Chemicals Agency: ECHA, <http://echa.europa.eu/>
- Access to European Union Law, <http://eur-lex.europa.eu/>
- Industrial Solvents Handbook, Ibert Mellan (Noyes Data Co., 1970).
- Threshold Limit Values, (AGCIH, 2012).
- Riesgos y Patología por Isocianatos, G.Alomar (INSHT, DT.54.89, 1989).
- ISOPA directives for the safety in the load/unload, transport and storage of TDI and MDI. ISOPA publication number: PSC-0014-GUIDL-EN.
- European agreement on the international carriage of dangerous goods by road, (ADR 2015).
- International Maritime Dangerous Goods Code IMDG including Amendment 36-12 (IMO, 2012).

Abbreviations and acronyms:

List of abbreviations and acronyms that can be used (but not necessarily used) in this material safety data sheet:

- **REACH:** Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
- **DSD:** Dangerous Substances Directive.
- **DPD:** Dangerous Preparations Directive.
- **GHS:** Globally Harmonized System of Classification and Labelling of Chemicals of the United Nations.
- **CLP:** European regularion on Classificatin, Labelling amd Packaging of substances and chemical mixtures.
- **EINECS:** European Inventory of Existing Commercial Chemical Substances.
- **ELINCS:** European List of Notified Chemical Substances.
- **CAS:** Chemical Abstracts Service (Division of the American Chemical Society).
- **UVCB:** Substances of Unknown or Variable composition, complex reaction products or biological materials).
- **SVHC:** Substances of Very High Concern.
- **PBT:** Persistent, bioaccumulable and toxic substances.
- **vPvB:** Very persistent and very bioaccumulable substances.
- **VOC:** Volatile Organic Compounds.
- **DNEL:** Derived No-Effect Level (REACH).
- **PNEC:** Predicted No-Effect Concentration (REACH).
- **LD50:** Letal dose, 50 percent.
- **LC50:** Letal concentration, 50 percent.
- **UN:** United Nations Organisation.
- **ADR:** European agreement concerning the international carriage of dangeous goods by road.
- **RID:** Regulations concerning the international transport of dangeous goods by rail.
- **IMDG:** International Maritime code for Dangerous Goods.
- **IATA:** International Air Transport Association.
- **ICAO:** International Civil Aviation Organization.

Material safety data sheet regulations:

Material Safety Data Sheet in accordance with Article 31 of Regulation (EC) No. 1907/2006 (REACH) and Annex of Regulation (EU) No. 2015/830.

History	Revision
Version 0.0	01/03/2018

Modifications with respect to the previous Material Safety Data Sheet:

The possible legislative, contextual, numerical, methodological and normative changes with respect to the previous version are highlighted in this Material Safety Data Sheet by a mark # in red and italic.

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Hardener anti graffiti
Codes: (NSYAUPG1G, NSYAUPG5G)

1.2. Relevant identified uses and uses advised against

- Intended uses (main technical functions): hardener, in combination with hydroxylated polymers, mainly polyesters and polyacrylates, in order to prepare 2 component systems.
- Sectors of use: industrial manufacturing (SU3).
- Uses advised against: this product is not recommended for any use or sector of use industrial, professional or consume other than those previously listed as "Intended or identified uses". If your use is not covered, please contact the supplier of this material safety data sheet.
- Restrictions on manufacture, placing on market and use, according to Annex XVII of Regulation (EC) No. 1907/2006: not restricted.

1.3. Details of the supplier of the safety data sheet

Schneider Electric Industries SAS

Le Hive
35 rue Joseph Monier - CS 30323
F-92506 Rueil Malmaison Cedex
Tel. +33 (0) 4 76 57 60 60
e-mail from the person in charge of MSDS: centre-service-client@fr.schneider-electric.com

1.4. Emergency telephone number

<u>Austria</u> : +43 (0) 1 406 43 43	<u>Romania</u> : +40 21 318 36 06	<u>Hungary</u> : +36 80 20 11 99
<u>Bulgaria</u> : 112	<u>Slovenia</u> : 112	<u>Latvia</u> : +371 67042473
<u>Cyprus</u> : 1401	<u>Sweden</u> : 112 ^[3]	<u>Luxembourg</u> : 112
<u>Denmark</u> : +45 82 12 12 12 ^[1]	<u>Iceland</u> : 112	<u>Netherlands</u> : +31 (0)30-2748888 ^[2]
<u>Finland</u> : +358 (0)9 471977	<u>Norway</u> : +47 22 59 13 00	<u>Portugal</u> : +351 808 250 143
<u>Greece</u> : +30 210 7793777	<u>Belgium</u> : +32 (0) 70 245 245	<u>Slovakia</u> : +421 2 5477 4166
<u>Italy</u> : +39 (0)55 7947819	<u>Croatia</u> : +385 (0)1-23-48-342	<u>Spain</u> : 112
<u>Lithuania</u> : +370 687 53378	<u>Czech Republic</u> : +420 224919293	<u>United Kingdom</u> : 111 (UK only)
<u>Malta</u> : 112	<u>Estonia</u> : 16662	<u>Liechtenstein</u> : 145
<u>Poland</u> : 112	<u>France</u> : +33 (0)1 45 42 59 59	<u>Switzerland</u> : 145

[1] Kontakt Giftlinien på tif.nr.: 82 12 12 12 (äbent 24 timer i døgnet). Se punkt 4 om førstehjælp.

[2] Only for the purpose of informing medical personnel in cases of acute intoxications.

[3] Ask for Poison Information.

Section 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification in accordance with Regulation (EC) No. 1272/2008~487/2013 (CLP) :
WARNING: Flam. Liq. 3:H226
Acute Tox. (inh.) 4:H332
Skin Irrit. 2:H315
Eye Irrit. 2:H319
Skin Sens. 1:H317
STOT SE (irrit.) 3:H335
STOT RE 2:H373i

Danger class	Classification of the mixture	Cat.	Routes of exposure	Target organs	Effects
Physicochemical 	Flam. Liq. 3:H226 Acute Tox. (inh.) 4:H332 Skin Irrit. 2:H315 Eye Irrit. 2:H319	Cat.3 Cat.4 Cat.2 Cat.2	- Inhalation Skin Eyes	- - Skin Eyes	- Harmful Irritation Irritation
Human health 	Skin Sens. 1:H317 STOT SE (irrit.) 3:H335 STOT RE 2:H373i	Cat.1 Cat.3 Cat.2	Skin Inhalation Inhalation	Skin Respiratory ways Systemic	Allergy Irritation Damage
Environment Not classified					

Full text of hazard statements mentioned is indicated in section 16.

2.2. Label elements



This product is labelled with the signal word DANGER in accordance with Regulation (EC) No. 1272/2008~487/2013 (CLP).

HARDENER ANTI GRAFFITI (codes: NSYAUPG1G, NSYAUPG5G)

Hazard statements:

- H226: flammable liquid and vapour.
- H373i: may cause damage to organs through prolonged or repeated exposure if inhaled.
- H332: harmful if inhaled.
- H319: causes serious eye irritation.
- H335: may cause respiratory irritation.
- H315: causes skin irritation.
- H317: may cause an allergic skin reaction.

Precautionary statements:

- P210: keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P243: take precautionary measures against static discharge.
- P260: do not breathe vapour, spray.
- P264a: wash the hands thoroughly after handling.
- P280B: wear protective gloves and eye protection .
- P363: wash contaminated clothing before reuse.
- P303 + P361 + P353 - P352 - P312: IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water. Call a POISON CENTER or doctor if you feel unwell.
- P304 + P340 - P312 IF INHALED: remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
- P501c: dispose of contents/container as hazardous waste.

Supplementary statements:

- EUH204: contains isocyanates, may produce an allergic reaction.

Hazardous ingredients:

- HDI oligomers, biuret
- Xylene (mixture of isomers)
- Ethylbenzene
- Hexamethylene-1,6-diisocyanate

2.3. Other hazards

Hazards which do not result in classification but which may contribute to the overall hazards of the mixture:

- Other physicochemical hazards: vapours may form with air a mixture potentially flammable or explosive.
- Other adverse human health effects: people with hypersensitive respiratory tract (by instance, asthma or chronic bronchitis) should not handle this product. The symptoms in the respiratory tract may appear even last few hours of excessive exposure. The major dangers for respiratory ways are the dust, vapours or aerosols. Prolonged exposure to vapours may produce transient drowsiness. In case of prolonged contact, the skin may become dry.
- Other negative environmental effects: does not contain substances that fulfil the PBT/vPvB criteria.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable (mixture).

3.2. Mixtures

This product is a mixture.

- Chemical description: solution of hdi oligomers, biuret.

Ingredients:

Danger	Hazardous substances	Concentration (%m/m)	Classification
	HDI oligomers, biuret CAS: 28182-81-2 List No. 939-340-8 REACH: 01-2119970543-34 Autoclassified	70 < 80 %	CLP: Warning: Acute Tox. (inh.) 4:H332 Skin Sens. 1:H317 STOT SE (irrit.) 3:H335 < REACH
	2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9 REACH: 01-2119475791-29 Index No. 607-195-00-7	10 < 15 %	CLP: Warning Flam. Liq. 3:H226 < REACH / ATP01
	Xylene (mixture of isomers) CAS: 1330-20-7 EC: 215-535-7 REACH: 01-2119488216-32 Index No. 601-022-00-9	5 < 10 %	CLP: Danger Flam. Liq. 3:H226 Acute Tox. (inh.) 4:H332 Acute Tox. (skin) 4:H312 Skin Irrit. 2:H315 Eye Irrit. 2:H319 STOT SE (irrit.) 3:H335 STOT RE 2:H373i Asp. Tox. 1:H304 < REACH

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	<p>Ethylbenzene CAS: 100-41-4 EC: 202-849-4 REACH: 01-2119489370-35 Index No. 601-023-00-4</p>	<p>1 < 3 %</p>	<p>CLP: Danger Flam. Liq. 2:H225 Acute Tox. (inh.) 4:H332 STOT RE 2:H373iE Asp. Tox. 1:H304 < REACH / ATP06</p>
	<p>Hexamethylene-1,6-diisocyanate CAS: 822-06-0 EC: 212-485-8 REACH: 01-2119457571-37 Index No. 615-011-00-1</p>	<p>< 0,5 %</p>	<p>CLP: Danger Acute Tox. (inh.) 1:H330 Acute Tox. (oral) 4:H302 Skin Irrit. 2:H315 Eye Irrit.2:H319 Resp. Sens. 1:H334 Skin Sens. 1:H317 STOT SE (irrit.) 3:H335 < REACH</p>

- **Impurities:** does not contain other components or impurities which will influence the classification of the product.
- **Stabilizers:** none.
- **Reference to other sections:** for more information on hazardous ingredients, see sections 8, 11, 12 and 16.

Substances of very high concern (SVHC):

List updated by ECHA on 15/06/2015.

- **Substances SVHC subject to authorisation, included in Annex XIV of Regulation (EC) no. 1907/2006:** none.
- **Substances SVHC candidate to be included in Annex XIV of Regulation (EC) no. 1907/2006:** none.

Persistent, bioaccumulable and toxic PBT, or very persistent and very bioaccumulable vPvB substances:

Does not contain substances that fulfill the PBT/vPvB criteria.

Section 4. FIRST AID MEASURES

4.1. Description of first-aid measures and main symptoms and effects, acute and delayed



Symptoms may occur after exposure, so that in case of direct exposure to the product, when in doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. Lifeguards should pay attention to self-protection and use the recommended protective equipment if there is a possibility of exposure. Wear protective gloves when administering first aid.

Route of exposure	Symptoms and effects, acute and delayed	Description of first-aid measures
<p>Inhalation</p>	<p>Inhalation of solvent vapours may produce headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, unconsciousness. Inhalation produces irritation to mucus, coughing and breathlessness.</p>	<p>Remove the patient out of the contaminated area into the fresh air. If breathing is irregular or stops, administer artificial respiration. If the person is unconscious, place in appropriate recovery position. Keep the patient warm and at rest until medical attention arrives.</p>
<p>Skin</p>	<p>Skin contact causes redness. In case of prolonged contact, the skin may become dry.</p>	<p>Remove immediately contaminated clothing. Wash thoroughly the affected area with plenty of cold or lukewarm water and neutral soap, or use a suitable skin cleanser. Do not use solvents or thinners. In the case of skin reddening or rashes, contact a doctor immediately.</p>
<p>Eyes</p>	<p>Contact with the eyes produces redness and pain.</p>	<p>Remove contact lenses. Rinse eyes copiously by irrigation with plenty of clean, fresh water for at least 15 minutes, holding the eyelids apart, until the irritation is reduced. Call a physician immediately.</p>
<p>Ingestion</p>	<p>If swallowed, may cause irritation of the throat, abdominal pain, drowsiness, nausea, vomiting and diarrhoea.</p>	<p>If swallowed, seek immediate medical attention. Do not induce vomiting, due to the risk of aspiration. Keep the patient at rest.</p>

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

Notes to physician:

Treatment should be directed at the control of symptoms and the clinical condition of the patient.

Antidotes and contraindications:

Specific antidote not known.

Section 5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Extinguishing powder or CO₂. In the case of more important fires, also alcohol resistant foam and water spray/mist. Do not use for extinguishing: direct water jet. Direct water jet may not be effective to extinguish the fire, since the fire may spread.

5.2. Special hazards arising from the substance or mixture

Fire can produce a dense black smoke. As consequence of combustion or thermal decomposition, hazardous products may be produced: carbon monoxide, carbon dioxide, nitrogen oxides, isocyanate vapours, traces of hydrocyanic acid. Exposure to combustion or decomposition products may be a hazard to health.

5.3. Advice for firefighters

Special protective equipment:

Depending on magnitude of fire, heat-proof protective clothing may be required, appropriate independent breathing apparatus, gloves, protective glasses or face masks and boots. If the fire-proof protective equipment is not available or not used, combat fire from a sheltered position or at a safe distance. The standard EN469 provides a basic level of protection for chemical incidents.

Other recommendations:

Cool with water the tanks, cisterns or containers close to sources of heat or fire. Bear in mind the direction of the wind. Do not allow fire-fighting residue to enter drains, sewers or water courses.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Eliminate possible sources of ignition and when appropriate, ventilate the area. Do not smoke. Avoid direct contact with this product. Avoid breathing vapours. Keep people without protection in opposition to the wind direction.

6.2. Environmental precautions

Avoid contamination of drains, surface or subterranean water and soil. In the case of large scale spills or when the product contaminates lakes, rivers or sewages, inform the appropriate authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Contain and mop up spills with non-combustible absorbent materials (earth, sand, vermiculite, diatomaceous earth, etc..). The contaminated area should be cleaned up immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises: water, ethanol or isopropanol and concentrated ammonia solution (d=0,880) = 45/50/5 parts by volume. Another possible (non-flammable) decontaminant is made up of water and sodium carbonate = 95/5 parts by weight. Add the same decontaminant to any residues and allow to stand for several days in an un-sealed container until no further reaction occurs. Keep the remains in a closed container.

6.4. Reference to other sections

- For contact information in case of emergency, see section 1.
- For information on safe handling, see section 7.
- For exposure controls and personal protection measures, see section 8.
- For subsequent waste disposal, follow the recommendations in section 13.

Section 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Comply with the existing legislation on health and safety at work.

General recommendations:

Avoid any type of leakage or escape. Keep the container tightly closed.

Recommendations for the prevention of fire and explosion risks:

Vapours are heavier than air, may spread along floors to a considerable distance, can form explosive mixtures with air and are able to reach distant ignition sources and flame up or explode. Due to its flammability, this material should only be used in areas from which all naked lights and other sources of ignition have been excluded and away from other heat or electrical sources. Switch mobile phones off and do not smoke. The zones with risk of explosion should be marked. Use instruments, systems and protective equipment adequate to the classification of zones, according to the health and safety at work laws, in accordance with Directive 94/9/EC and 99/92/EC. Electrical equipment should be protected to the appropriate standard. No tools with a potential for sparks should be used. Elaborate the document "Protection against explosions".

Flash point	Autoignition temperature	Upper/lower flammability or explosive limits	Upper/lower flammability or explosive limits
39.°C	430.°C	1.3 - 8.8% Volume 25°C	0.9 - 11.7% Volume 300°C

Recommendations for the prevention of toxicological risks:

People with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which isocyanate containing products are used. Do not eat, drink or smoke while handling. After handling, wash hands with soap and water. For exposure controls and personal protection measures, see section 8.

Recommendations for the prevention of environmental contamination:

It is not considered a danger to the environment. In the case of accidental spillage, follow the instructions indicated in section 6.

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7.2. Conditions for safe storage, including any incompatibilities

Prevent unauthorized access. Keep away from food, drink and animal foodstuffs. This product should be stored isolated from heat and electrical sources. Do not smoke in storage area. If possible, avoid direct contact with sunlight. Avoid extreme humidity conditions. Precautions should be taken to minimise exposure to atmospheric humidity or water, as carbon dioxide may be formed which, in closed containers can result in pressurisation. Care should be taken when re-opening partly used containers. Due to the sensitivity to humidity of the isocyanates, this product should be kept in the original container, or under pressure of dried nitrogen, for example. In order to avoid leakages, the containers, after use, should be closed carefully and placed in a vertical position. For more information, see section 10.

Class of store	Maximum storage period	Temperature interval	Incompatible materials	Type of packaging	Limit quantity (Seveso III): Directive 96/82/EC~2003/105/EC
According to current legislation	12. months	min: 5. °C, max: 35. °C (recommended)	Keep away from oxidizing agents, from strongly alkaline and strongly acid materials	According to current legislation	Lower threshold: 5000 tons , Upper threshold: 50000 tons

7.3. Specific end uses

For the use of this product do not exist particular recommendations apart from that already indicated.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

If a product contains ingredients with exposure limits, may be necessary a personnel monitoring, work place or biological, to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to EN689, EN14042 and EN482 standard concerning methods for assessing the exposure by inhalation to chemical agents, and exposure to chemical and biological agents. Reference should be also made to national guidance documents for methods for the determination of dangerous substances.

Occupational exposure limit values (TLV):

AGCIH 2013	Year	TLV-TWA		TLV-STEL		Observations
		ppm	mg/m ³	ppm	mg/m ³	
2-methoxy-1-methylethyl acetate		50.	275.	100.	550.	Vd
Xylene (mixture of isomers)	1996	100.	434.	150.	651.	Recommended
Ethylbenzene	2002	100.	434.	125.	543.	A4
Hexamethylene-1,6-diisocyanate	1988	0.005.	0.034	-	-	A3

TLV - Threshold Limit Value

TWA - Time Weighted Average

STEL - Short Term Exposure Limit.

Vd - Dermal.

A3 - Carcinogenic in animals.

A4 - Non classified as carcinogenic in humans.

Dermal (Vd):

Means that, in exposures to this substance, the contribution by the cutaneous route, including the mucous membranes and eyes, may result significant for the overall body content if no measures are taken to prevent absorption. There are some chemicals for which dermal absorption, both in liquid and vapour phases, can be very high, and this route of entry may be or equal or greater importance even that inhalation pathway. In these situations, the use of a biological control is essential in order to quantify the overall amount of contaminant absorbed.

Biological limit values:

Not established.

Derived no-effect level (DNEL):

Derived no-effect level (DNEL) is a level of exposure that is considered safe, derived from toxicity data according to specific guidances included in REACH. DNEL values may differ from a occupational exposure limit (OEL) for the same chemical. OEL values may come recommended by a particular company, a government regulatory agency or an organization of experts. Although considered protective of health, the OEL values are derived by a process different of REACH.

Derived no-effect level, workers (systemic effects, acute and chronic)	DNEL Inhalation (mg/m ³)		DNEL Cutaneous (mg/kg bw/d)		DNEL Oral (mg/kg bw/d)	
	s/r (a)	s/r (c)	s/r (a)	s/r (c)	- (a)	- (c)
HDI oligomers, biuret	s/r (a)	s/r (c)	s/r (a)	s/r (c)	- (a)	- (c)
2-methoxy-1-methylethyl acetate	- (a)	275. (c)	- (a)	154. (c)	- (a)	- (c)
Xylene (mixture of isomers)	289. (a)	77.0 (c)	s/r (a)	180. (c)	- (a)	- (c)
Ethylbenzene	s/r (a)	77.0 (c)	s/r (a)	180. (c)	- (a)	- (c)
Hexamethylene-1,6-diisocyanate	0.0700 (a)	0.0350 (c)	- (a)	- (c)	- (a)	- (c)

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Derived no-effect level, workers (local effects, acute and chronic)	DNEL Inhalation (mg/m ³)		DNEL Cutaneous (mg/cm ²)		DNEL Eyes (mg/cm ²)	
HDI oligomers, biuret	1.00 (a)	0.500 (c)	m/r (a)	m/r (c)	s/r (a)	- (c)
2-methoxy-1-methylethyl acetate	- (a)	- (c)	- (a)	- (c)	- (a)	- (c)
Xylene (mixture of isomers)	289. (a)	s/r (c)	s/r (a)	s/r (c)	- (a)	- (c)
Ethylbenzene	293. (a)	s/r (c)	s/r (a)	s/r (c)	- (a)	- (c)
Hexamethylene-1,6-diisocyanate	0.0700 (a)	0.0350 (c)	- (a)	- (c)	- (a)	- (c)

Derived no-effect level, general population:

Not applicable (product for industrial use).

(a) - Acute, short-term exposure

(c) - Chronic, long-term or repeated exposure.

(-) - DNEL not available (without data of registration REACH).

s/r - DNEL not derived (not identified hazard).

m/r - DNEL not derived (medium hazard).

Predicted no-effect concentration (PNEC):

Predicted no-effect concentration, aquatic organisms (fresh water, marine water and intermittent release)	PNEC Fresh water (mg/l)	PNEC Marine (mg/l)	PNEC Intermittent (mg/l)
HDI oligomers, biuret	s/r	s/r	s/r
2-methoxy-1-methylethyl acetate	0.635	0.0635	6.35
Xylene (mixture of isomers)	0.327	0.327	0.327
Ethylbenzene	0.100	0.0100	0.100
Hexamethylene-1,6-diisocyanate	0.0774	0.00774	0.774

Predicted no-effect concentration, aquatic organisms (wastewater treatment plants (STP) and sediments in fresh- and marine water)	PNEC STP (mg/l)	PNEC Sediments (mg/kg dry weight)	PNEC Sediments (mg/kg dry weight)
HDI oligomers, biuret	6.46	s/r	s/r
2-methoxy-1-methylethyl acetate	100.	3.29	0.329
Xylene (mixture of isomers)	6.58	12.5	12.5
Ethylbenzene	9.60	13.7	13.7
Hexamethylene-1,6-diisocyanate	8.42	0.0133	0.00133

Predicted no-effect concentration, terrestrial organisms (air, soil and effects for predators and humans)	PNEC Air (mg/m ³)	PNEC Soil (mg/kg dry weight)	PNEC Oral (mg/kg bw/d)
HDI oligomers, biuret	s/r	s/r	n/b
2-methoxy-1-methylethyl acetate	-	0.290	-
Xylene (mixture of isomers)	-	2.31	-
Ethylbenzene	-	2.68	20.0
Hexamethylene-1,6-diisocyanate	-	0.00260	-

(-) - PNEC not available (without data of registration REACH).

s/r - PNEC not derived (not identified hazard).

n/b - PNEC not derived (not bioaccumulative potential).

8.2. Exposure controls

Engineering measures:



Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these measures are not sufficient to maintain concentrations of particulates and vapours below the Occupational Exposure Limits, suitable respiratory protection must be worn.

- **Protection of respiratory system:** avoid the inhalation of vapours. Avoid the inhalation of particles or spray mist arising from the application of this preparation.
- **Protection of eyes and face:** it is recommended to install emergency eye baths close to the working area.
- **Protection of hands and skin:** it is recommended to install emergency showers close to the working area. Barrier creams may help to protect the exposed areas of the skin. Barrier creams should not be applied once exposure has occurred.

Occupational exposure controls, directive 89/686/EEC~96/58/EC:

As a general measure on prevention and safety in the work place, we recommend the use of a basic personal protection equipment (PPE), with the corresponding EC marking. For more information on personal protective equipment (storage, use, cleaning, maintenance, type and characteristics of the PPE, protection class, marking, category, CEN norm, etc..), you should consult the informative brochures provided by the manufacturers of PPE.

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Mask	In order to obtain a suitable protection level, the filter class must be selected depending on the type and concentration of the contaminating agents present, in accordance with the specifications supplied by the filter producers. If the working area is insufficiently ventilated, when operators, whether spraying or not, are inside the spraybooth, compressed air-fed respiratory protective equipment (EN14387) is required. For short periods of work, you can consider the utilisation of a combination mask with gas and particle filters, type A2-P2 (EN141/EN143).
Goggles	Safety goggles designed to protect against liquid splashes, with suitable lateral protection (EN166). Clean daily and disinfect at regular intervals in accordance with the instructions of the manufacturer.
Face shield	No.
Gloves	Gloves resistant against chemicals (EN374). When it can be a repeated or prolonged contact, it is recommended to use gloves with a protection level 5 or higher, with a breakthrough time >240 min. When you only expects a short contact, it is recommended to use gloves with a protection level 2 or higher, with a breakthrough time >30 min. The breakthrough time of the selected glove material should be in accordance with the pretended period of use. There are several factors (for example, temperature), they do in practice the period of use of a protective gloves resistant against chemicals is clearly lower than the established standard EN374. Due to the wide variety of circumstances and possibilities, we must have in mind the manual of instructions from manufacturers of gloves. Use the proper technique of removing gloves (without touching glove's outer surface) to avoid contact of the product with the skin. The gloves should be immediately replaced when any sign of degradation is noted.
Boots	No.
Apron	No.
Clothing	It is advisable personnel wear antistatic clothing made of natural fibre or high temperature resistant synthetic fibre.

Thermal hazards:

Not applicable (the product is handled at room temperature).

Environmental exposure controls:

Avoid any spillage in the environment. Avoid any release into the atmosphere.

- Spills on the soil: prevent contamination of soil.
- Spills in water: do not allow to escape into drains, sewers or water courses.
- Emissions to the atmosphere: because of volatility, emissions to the atmosphere while handling and use may result. Avoid any release into the atmosphere. Emissions from ventilation equipment or work processes should be evaluated to verify compliance with the requirements of the legislation on the prevention of environment. In some cases it will be necessary to use fume scrubbers, filters or modifications in the design of process equipment to reduce emissions to an acceptable level.
- VOC (industrial installations): it must be verified if it is applicable the Directive 1999/13/EC, on the limitation of emissions of volatile compounds due to the use of organic solvents in certain activities and installations: Solvents : 25.0% Weight , VOC (supply) : 25.0% Weight , VOC : 18.1% C (expressed as carbon) , Molecular weight (average) : 119.7 , Number C atoms (average) : 7.2.

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 available (mixture)
pH-value	pH	Not applicable
Change of state	Melting point	Not applicable (mixture)
	Initial boiling point	136.2°C at 760 mmHg
Density	Vapour density	3.9 at 20°C 1 atm. - Relative air
	Relative density	1.07 at 20/4°C - Relative water
Stability	Decomposition temperature	136.°C
Viscosity	Dynamic viscosity	230. ± 100. cps 20°C
	Kinematic viscosity	74. mm²/s at 40°C
	Kinematic viscosity	# 215. ± 85. # cSt 20°C
Volatility	Vapour pressure	5.3 mmHg at 20°C
	Vapour pressure	3.6 kPa at 50°C
Solubility(ies)	Solubility in water	Miscible
	Solubility in oils and fats	Not available
Flammability	Flash point	39. °C
	Upper/lower flammability or explosive limits	1.3 - 8.8 % Volume 25°C
	Upper/lower flammability or explosive limits	0.9 - 11.7 % Volume 300°C
	Autoignition temperature	430. °C

Explosive properties:

Vapours can form explosive mixtures with air and are able to flame up or explode in presence of an ignition source.

Oxidizing properties:

Not classified as oxidizing product.

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9.2. Other information

Heat of combustion	5156. Kcal/kg
Solids	75. % Weight 30'130°C
Isocyanates	0.15 % NCO s/total
VOC (supply)	25.0 % Weight
VOC (supply)	267.5 g/l

The values indicated do not always coincide with product specifications. The data for the product specifications can be found in the technical data sheet of the same. For additional information concerning physical and chemical properties related to safety and environment, see sections 7 and 12.

Section 10. STABILITY AND REACTIVITY

10.1. Reactivity

- Corrosivity to metals: it is not corrosive to metals.
- Pyrophorical properties: it is not pyrophoric.

10.2. Chemical stability

Stable under recommended storage and handling conditions.

10.3. Possibility of hazardous reactions

Possible dangerous reaction with water, oxidizing agents, acids, alkalis, amines, alcohols. Exothermic reaction with amines and alcohols. Reacts with water under evolution of CO₂.

10.4. Conditions to avoid

- Heat: keep away from sources of heat.
- Light: if possible, avoid direct contact with sunlight.
- Air: not applicable.
- Humidity: avoid humidity. Precautions should be taken to minimise exposure to atmospheric humidity or water, as carbon dioxide may be formed which, in closed containers can result in pressurisation.
- Pressure: not applicable.
- Shock: not applicable.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

As consequence of thermal decomposition, hazardous products may be produced, including isocyanates.

Section 11. TOXICOLOGICAL INFORMATION

No experimental toxicological data on the preparation is available. The toxicological classification for these mixture has been carried out by using the conventional calculation method of the Regulation (EC) No. 1272/2008~487/2013 (CLP).


11.1. Information on toxicological effects

Acute toxicity:

Dose and lethal concentrations (for individual ingredients)	DL50 (OECD 401) (mg/kg oral)	DL50 (OECD 402) (mg/kg cutaneous)	CL50 (OECD 403) (mg/m ³ .4h inhalation)
HDI oligomers, biuret	> 5000. Rat	15800. Rabbit	> 402. Rat
2-methoxy-1-methylethyl acetate	8532. Rat	> 5000. Rat	> 35700. Rat
Xylene (mixture of isomers)	4300. Rat	1700. Rabbit	> 22080. Rat
Ethylbenzene	3500. Rat	15400. Rabbit	> 17400. Rat
Hexamethylene-1,6-diisocyanate	738. Rat	593. Rabbit	> 310. Rat

- No observed adverse effect level: not available.
- Lowest observed adverse effect level: not available.

Information on likely routes of exposure, acute toxicity:

Route of exposure	Acute toxicity	Cat.	Main effects, acute and/or delayed
Inhalation 	ETA : 12695. mg/m ³	Cat.4	HARMFUL: harmful if inhaled vapours.
Skin Not classified	ETA > 2000 mg/kg	-	Not classified as a product with acute toxicity in contact with skin (based on available data, the classification criteria are not met).
Eyes Not classified	Not available	-	Not classified as a product with acute toxicity by eye contact (lack of data).
Ingestion Not classified	ETA > 5000 mg/kg	-	Not classified as a product with acute toxicity if swallowed (based on available data, the classification criteria are not met).

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Corrosion / irritation / sensitisation:

Danger class	Target organs	Cat.	Main effects, acute and/or delayed
 Respiratory corrosion/irritation	Respiratory ways 	Cat.3	IRRITANT: may cause respiratory irritation.
 Skin corrosion/irritation	Skin 	Cat.2	IRRITANT: causes skin irritation.
 Serious eye damage/irritation	Eyes 	Cat.2	IRRITANT: causes serious eye irritation.
Respiratory sensitisation Not classified	-	-	Not classified as a product sensitising by inhalation (based on available data, the classification criteria are not met).
 Skin sensitisation	Skin 	Cat.1	SENSITISING: may cause an allergic skin reaction.

Aspiration hazard:

Danger class	Target organs	Cat.	Main effects, acute and/or delayed
Aspiration hazard Not classified	-	-	Not classified as a product hazardous by aspiration (based on available data, the classification criteria are not met).

Specific target organs toxicity (STOT), single exposure (SE) and/or repeated exposure (RE):

Not classified as a dangerous product for target organs (based on available data, the classification criteria are not met).

CMR effects:

- Carcinogenic effects: is not considered as a carcinogenic product.
- Genotoxicity: is not considered as a mutagenic product.
- Toxicity for reproduction: do not harm fertility. Do not harm the fetus developing.
- Effects via lactation: not classified as a hazardous product for children breast-fed.

Section 12. ECOLOGICAL INFORMATION

No experimental ecotoxicological data on the preparation as such is available. The ecotoxicological classification for these mixture has been carried out by using the conventional calculation method of the Regulation (EC) No. 1272/2008~487/2013 (CLP).

12.1. Toxicity

Acute toxicity in aquatic environment (for individual ingredients)	CL50 (OECD 203) (mg/l.96 hours)	CE50 (OECD 202) (mg/l.48 hours)	CE50 (OECD 201) (mg/l.72 hours)
HDI oligomers, biuret	> 100. Fishes	> 100. Daphnia	> 100. Algae
2-methoxy-1-methylethyl acetate	134. Fishes	408. Daphnia	> 1000. Algae
Xylene (mixture of isomers)	14. Fishes	16. Daphnia	> 10. Algae
Ethylbenzene	12. Fishes	1.8 Daphnia	33. Algae
Hexamethylene-1,6-diisocyanate			77. Algae

No observed effect concentration	NOEC (OECD 210) (mg/l.28 days)	NOEC (OECD 211) (mg/l.21 days)
2-methoxy-1-methylethyl acetate		> 100. Daphnia

Lowest observed effect concentration:

Not available.

12.2. Persistence and degradability

Not available.

Aerobic biodegradation (for individual ingredients)	DQO (mgO ₂ /g)	% DBO/DQO			Biodegradability
		5 days	14 days	28 days	
HDI oligomers, biuret				1.	Not easy
2-methoxy-1-methylethyl acetate	1520.	~ 22.	~ 78.	~ 90.	Easy
Xylene (mixture of isomers)	2620.	~ 52.	~ 81.	~ 88.	Easy
Ethylbenzene	3164.	~ 30.	~ 68.	~ 79.	Easy
Hexamethylene-1,6-diisocyanate			20.	42.	Not easy

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12.3. Bioaccumulative potential

Not available.

Bioaccumulation (for individual ingredients)	logPow	BCF (L/kg)	Potential
HDI oligomers, biuret		3.2 (calculated)	No bioaccumulable
2-methoxy-1-methylethyl acetate	0.560	3.2 (calculated)	No bioaccumulable
Xylene (mixture of isomers)	3.16	57. (calculated)	Low
Ethylbenzene	3.15	56. (calculated)	Low
Hexamethylene-1,6-diisocyanate	3.20	60. (calculated)	Low

12.4. Mobility in soil

Not available.

12.5. Results of PBT and vPvB assesment, annex XIII of regulation (ec) no. 1907/2006

Does not contain substances that fulfill the PBT/vPvB criteria.

12.6. Other adverse effects

- Ozone depletion potential: not available.
- Photochemical ozone creation potential: not available.
- Earth global warming potential: in case of fire or incineration liberates CO₂.
- Endocrine disrupting potential: not available.

Section 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods, Directive 2008/98/EC

Take all necessary measures to prevent the production of waste whenever possible. Analyse possible methods for revaluation or recycling. Do not discharge into drains or the environment, dispose of at an authorised waste collection point. Waste should be handled and disposed of in accordance with current local and national regulations. For exposure controls and personal protection measures, see section 8.

LER code, Decision 2000/532/EC:

- 080102: Wastes of paints and varnishes not containing halogenated solvents. ELW (European list of waste) code, is provided only for orientation, in accordance with the product composition and intended uses. The end user is responsible for the correct classification of resulting waste, having in mind its use, contamination or modifications performed.

Disposal of empty containers, Directive 94/62/EC~2005/20/EC, Decision 2000/532/EC:

Emptied containers and packaging should be disposed of in accordance with currently local and national regulations. The classification of packaging as hazardous waste will depend on the degree of emptying of the same, being the holder of the residue responsible for their classification, in accordance with Chapter 15 01 of Decision 2000/532/EC, and forwarding to the appropriate final destination. With contaminated containers and packaging, adopt the same measures as for the product in itself.

Procedures for neutralising or destroying the product:

Controlled incineration in special facilities for chemical waste, but in accordance with local regulations.

Section 14. TRANSPORT INFORMATION

14.1. UN number


1263.

14.2. UN proper shipping name


Paint.

14.3. Transport hazard class(es) and packing group


Transport by road (ADR 2015) and transport by rail (RID 2015):

Class	3	
Packaging group	III	
Classification code	F1	
Tunnel restriction code	(D/E)	
Transport category	3, max. ADR 1.1.3.6. 1000 L	
Limited quantities	5 L (see total exemptions ADR 3.4)	
Transport document	Consignment paper	
Instructions in writing	ADR 5.4.3.4	

Transport by sea (IMDG 36-12):

Class	3	
Packaging group	III	
Emergency Sheet (EmS)	F-E, S E	
First Aid Guide (MFAG)	310,313	
Marine pollutant	No.	
Transport document	Shipping Bill of lading	

Transport by air (ICAO/IATA 2014):

Class	3	
Packaging group	III	
Transport document	Air Bill of lading	

Transport by inland waterways (ADN):

Not available.

14.4. Environmental hazards

Not applicable (not classified as hazardous for the environment).

14.5. Special precautions for user

Ensure that persons transporting the product know what to do in case of accident or spill. Always transport in closed containers that are in a vertical position and sure. Ensure adequate ventilation.

14.6. Transport in bulk according to annex II of marpol 73/78 and the IBC code

Not available.

Section 15. REGULATORY INFORMATION

15.1. EU safety, health and environmental regulations/legislation specific

The regulations applicable to this product generally are listed throughout this material safety data sheet.

- Restrictions on manufacture, placing on market and use: see section 1.2.
- Control of the risks inherent in major accidents (Seveso III): see section 7.2.
- Tactile warning of danger: not applicable (product for industrial use).
- Child safety protection: not applicable (the classification criteria are not met).
- VOC information on the label: for use in installations falling under the scope of Directive 1999/13/EC only.
- Other regulations: not available.

15.2. Chemical safety assessment

For this mixture has not been carried out a chemical safety assessment.

Section 16. OTHER INFORMATION

16.1. Text of the phrases and notes referenced in sections 2 and/or 3

Hazard statements according the Regulation (EC) No. 1272/2008~487/2013 (CLP), Annex III:

- H225: highly flammable liquid and vapour.
- H226: flammable liquid and vapour.
- H302: harmful if swallowed.
- H304: may be fatal if swallowed and enters airways.
- H312: harmful in contact with skin.
- H315: causes skin irritation.
- H317: may cause an allergic skin reaction.
- H319: causes serious eye irritation.
- H330: fatal if inhaled.
- H332: harmful if inhaled.
- H334: may cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335: may cause respiratory irritation.
- H373i: may cause damage to organs through prolonged or repeated exposure if inhaled.
- H373iE: may cause damage to hearing organs through prolonged or repeated exposure if inhaled.

Indications for preparations containing isocyanates:

Ready-to-use preparations containing isocyanates may have an irritant effect on mucous membranes -especially on breathing organs- and cause hypersensitivity reactions. Inhalation of vapour or spray mist may cause sensitisation. When handling preparations containing isocyanates all precautions required for solvent-containing preparations must be followed. Vapour and spray mist in particular should not be inhaled. Allergics and asthmatics, as well as people prone to respiratory ailments should not work with isocyanate-containing preparations.

Advices on any training appropriate for workers:

It is recommended for all staff that will handle this product to carry out a basic training in occupational risk and prevention, in order to provide understanding and interpretation of material safety data sheets and labelling of products as well.

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Main literature references and sources for data:

- European Chemicals Agency: ECHA, <http://echa.europa.eu/>
- Access to European Union Law, <http://eur-lex.europa.eu/>
- Industrial Solvents Handbook, Ibert Mellan (Noyes Data Co., 1970).
- Threshold Limit Values, (AGCIH, 2012).
- Riesgos y Patología por Isocianatos, G.Alomar (INSHT, DT.54.89, 1989).
- ISOPA directives for the safety in the load/unload, transport and storage of TDI and MDI. ISOPA publication number: PSC-0014-GUIDL-EN.
- European agreement on the international carriage of dangerous goods by road, (ADR 2015).
- International Maritime Dangerous Goods Code IMDG including Amendment 36-12 (IMO, 2012).

Abbreviations and acronyms:

List of abbreviations and acronyms that can be used (but not necessarily used) in this material safety data sheet:

- **REACH:** Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
- **DSD:** Dangerous Substances Directive.
- **DPD:** Dangerous Preparations Directive.
- **GHS:** Globally Harmonized System of Classification and Labelling of Chemicals of the United Nations.
- **CLP:** European regularion on Classificatin, Labelling amd Packaging of substances and chemical mixtures.
- **EINECS:** European Inventory of Existing Commercial Chemical Substances.
- **ELINCS:** European List of Notified Chemical Substances.
- **CAS:** Chemical Abstracts Service (Division of the American Chemical Society).
- **UVCB:** Substances of Unknown or Variable composition, complex reaction products or biological materials).
- **SVHC:** Substances of Very High Concern.
- **PBT:** Persistent, bioaccumulable and toxic substances.
- **vPvB:** Very persistent and very bioaccumulable substances.
- **VOC:** Volatile Organic Compounds.
- **DNEL:** Derived No-Effect Level (REACH).
- **PNEC:** Predicted No-Effect Concentration (REACH).
- **LD50:** Letal dose, 50 percent.
- **LC50:** Letal concentration, 50 percent.
- **UN:** United Nations Organisation.
- **ADR:** European agreement concerning the international carriage of dangeous goods by road.
- **RID:** Regulations concerning the international transport of dangeous goods by rail.
- **IMDG:** International Maritime code for Dangerous Goods.
- **IATA:** International Air Transport Association.
- **ICAO:** International Civil Aviation Organization.

Material safety data sheet regulations:

Material Safety Data Sheet in accordance with Article 31 of Regulation (EC) No. 1907/2006 (REACH) and Annex of Regulation (EU) No. 2015/830.

History	Revision
Version 0.0	01/03/2018

Modifications with respect to the previous Material Safety Data Sheet:

The possible legislative, contextual, numerical, methodological and normative changes with respect to the previous version are highlighted in this Material Safety Data Sheet by a mark # in red and italic.