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|  | ARTIDUR A-2C- COMP B / BARTIDUR A-2C - COMP B Code: 02161B |  |
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Version: 7 Revision: 25/08/2015 Previous revision: 24/03/2015 Date of printing: 25/08/2015

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING


- 1.1 **PRODUCT IDENTIFIER:** ARTIDUR A-2C- COMP B / BARTIDUR A-2C - COMP B
Code: 02161B
- 1.2 **RELEVANT IDENTIFIED USES AND USES ADVISED AGAINST:**
Intended uses (main technical functions): [] Industrial [X] Professional [X] Consumers
 Component B.
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:**
 ARTIC INDUSTRIAL QUIMICA, S.A.
 Ctra. de Gerb, 51-73 - 25600 - BALAGUER (Lleida)
 Phone: (+34) 902 431250 - Fax: (+34) 973 445045
E-mail address of the person responsible for the safety data sheet:
 e-mail: info@articsa.net
- 1.4 **EMERGENCY TELEPHONE NUMBER:** (+34) 973 450717 (9:00-13:00 / 15:00-18:00 h.) (working hours)

SECTION 2 : HAZARDS IDENTIFICATION

2.1 **CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:**
Classification in accordance with Regulation (EC) No. 1272/2008-487/2013 (CLP):
 DANGER: Flam. Liq. 3:H226 | Skin Irrit. 2:H315 | Eye Irrit. 2:H319 | Skin Sens. 1:H317 | STOT SE (irrit.) 3:H335 | STOT SE (narcosis) 3:H336 | STOT RE 2:H373i | Asp. Tox. 1 H304 | EUH066

| Danger class | Classification of the mixture | Cat. | Routes of exposure | Target organs | Effects |
|--|--|-------------------------|----------------------------------|---------------------------------|-------------------------------------|
| <u>Physicochemical:</u>  | Flam. Liq. 3:H226 Skin Irrit. 2:H315 Eye Irrit. 2:H319 | Cat.3 Cat.2 Cat.2 | - Skin Eyes | - Skin Eyes | - Irritation Irritation |
| <u>Human health:</u>  | Skin Sens. 1:H317 STOT SE (irrit.) 3:H335 STOT SE (narcosis) 3:H336 STOT RE 2:H373i | Cat.1 Cat.3 Cat.3 | Skin Inhalation Inhalation | Skin Respiratory ways CNS | Allergy Irritation Narcosis |
| <u>Environment:</u> Not classified | Asp. Tox. 1:H304 EUH066 | Cat.1 - | Ingestion+Aspiration Skin | Lungs Skin | Damage Dead Dryness, Cracking |

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)
- Hazard statements:
- | | |
|-------|---|
| H226 | Flammable liquid and vapour. |
| H373i | May cause damage to organs through prolonged or repeated exposure if inhaled. |
| H304 | May be fatal if swallowed and enters airways. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H315 | Causes skin irritation. |
| H336 | May cause drowsiness or dizziness. |
| H317 | May cause an allergic skin reaction. |
- Precautionary statements:
- | | |
|--------------------------|--|
| P101 | If medical advice is needed, have product container or label at hand. |
| P102-P405 | Keep out of reach of children. Store locked up. |
| P103 | Read label before use. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280F | Wear protective gloves, clothing and eye protection. In case of inadequate ventilation wear respiratory protection. |
| P363 | Wash contaminated clothing before reuse. |
| P301+P310-P330+P331 | IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. |
| 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. |
| P501a | Dispose of contents/container in a safe way. |
- Supplementary statements:
- | | |
|--------|---|
| EUH204 | Contains isocyanates. May produce an allergic reaction. |
|--------|---|
- Hazardous ingredients:
- Hexamethylene diisocyanate, oligomers
 Xylene (mixture of isomers)
 n-butyl acetate
 Ethylbenzene



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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. 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.
Other negative environmental effects: Does not contain substances that fulfill 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 hexamethylene diisocyanate, oligomers.
HAZARDOUS INGREDIENTS:
Substances taking part in a percentage higher than the exemption limit:

| | | | |
|---------------|--|-------------------------|---|
| 30 < 40 % | Hexamethylene diisocyanate, oligomers CAS: 28182-81-2 , EC: 500-060-2 CLP: Warning: Skin Sens. 1:H317 | REACH: Exempt | Autoclassified |
| 25 < 30 % | Xylene (mixture of isomers) CAS: 1330-20-7 , EC: 215-535-7 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: 01-2119488216-32 | Index No. 601-022-00-9 < REACH |
| 20 < 25 % | n-butyl acetate CAS: 123-86-4 , EC: 204-658-1 CLP: Warning: Flam. Liq. 3:H226 STOTSE (na rcois) 3:H336 EUH066 | REACH: 01-2119485493-29 | Index No. 607-025-00-1 < REACH / ATP01 |
| 15 < 20 % | 2-methoxy-1-methylethyl acetate CAS: 108-65-6 , EC: 203-603-9 CLP: Warning: Flam. Liq. 3:H226 | REACH: 01-2119475791-29 | Index No. 607-195-00-7 < REACH / ATP01 |
| 1 < 2 % | Ethylbenzene CAS: 100-41-4 , EC: 202-849-4 CLP: Danger: Flam. Liq. 2:H225 Acute Tox. (inh.) 4:H332 STOT RE 2:H373iE Asp. Tox. 1:H304 | | Index No. 601-023-00-4 < ATP06 |

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 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.








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SECTION 4 : FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST-AID MEASURES AND MAIN SYMPTOMS AND EFFECTS, ACUTE AND DELAYED:

4.2  # 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.

| Route of exposure | Symptoms and effects, acute and delayed | Description of first-aid measures |
|---|---|--|
| <u>Inhalation:</u>  | # Normally does not produce symptoms. | # Should there be any symptoms, transfer the person affected to the open air. |
| <u>Skin:</u>  | Skin contact causes redness. In case of prolonged contact, the skin may become dry. | # Remove 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. |
| <u>Eyes:</u>  | Contact with the eyes produces redness and pain. | # Remove contact lenses. Rinse eyes copiously by irrigation with plenty of clean, fresh water, holding the eyelids apart. If irritation persists, consult a physician. |
| <u>Ingestion:</u>  | # If swallowed in high doses, may cause gastrointestinal disturbances. | If swallowed, seek medical advice immediately and show container or label. Do not induce vomiting, due to the risk of aspiration. Keep the patient at rest. |

4.3 **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:**
Flammable liquid and vapour. Decomposes when heated intensely. 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. Harmful. Irritant. 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.



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SECTION 7 : HANDLING AND STORAGE

| | | | | | | | | | | |
|--|---|--|---|-----------------------------------|--|---|-------------------------|--------------------------------------|---|--|
| 7.1 | <p><u>PRECAUTIONS FOR SAFE HANDLING:</u> Comply with the existing legislation on health and safety at work. <u>General recommendations:</u> Avoid any type of leakage or escape. Keep the container tightly closed. <u>Recommendations for the prevention of fire and explosion risks:</u> 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. No tools with a potential for sparks should be used.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">- Flash point</td> <td style="width: 10%; text-align: center;">:</td> <td style="width: 40%;">30. °C</td> </tr> <tr> <td>- Upper/lower flammability or explosive limits</td> <td style="text-align: center;">:</td> <td>1.3 - 8.0 % Volume 25°C</td> </tr> </table> <p><u>Recommendations for the prevention of toxicological risks:</u> 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. <u>Recommendations for the prevention of environmental contamination:</u> It is not considered a danger to the environment. In the case of accidental spillage, follow the instructions indicated in section 6.</p> | - Flash point | : | 30. °C | - Upper/lower flammability or explosive limits | : | 1.3 - 8.0 % Volume 25°C | | | |
| - Flash point | : | 30. °C | | | | | | | | |
| - Upper/lower flammability or explosive limits | : | 1.3 - 8.0 % Volume 25°C | | | | | | | | |
| 7.2 | <p><u>CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:</u> Prevent unauthorized access. Keep away from food, drink and animal foodstuffs. Keep out of reach of children. 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.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">- <u>Class of store</u></td> <td style="width: 10%; text-align: center;">:</td> <td style="width: 40%;">According to current legislation.</td> </tr> <tr> <td>- <u>Maximum storage period</u></td> <td style="text-align: center;">:</td> <td>24. months</td> </tr> <tr> <td>- <u>Temperature interval</u></td> <td style="text-align: center;">:</td> <td>min: 5. °C, max: 40. °C (recommended).</td> </tr> </table> <p><u>Incompatible materials:</u> Keep away from oxidising agents, from strongly alkaline and strongly acid materials. <u>Type of packaging:</u> According to current legislation. <u>Limit quantity (Seveso III): Directive 96/82/EC-2003/105/EC:</u> Lower threshold: 5000 tons , Upper threshold: 50000 tons</p> | - <u>Class of store</u> | : | According to current legislation. | - <u>Maximum storage period</u> | : | 24. months | - <u>Temperature interval</u> | : | min: 5. °C, max: 40. °C (recommended). |
| - <u>Class of store</u> | : | According to current legislation. | | | | | | | | |
| - <u>Maximum storage period</u> | : | 24. months | | | | | | | | |
| - <u>Temperature interval</u> | : | min: 5. °C, max: 40. °C (recommended). | | | | | | | | |
| 7.3 | <p><u>SPECIFIC END USES:</u> For the use of this product do not exist particular recommendations apart from that already indicated.</p> | | | | | | | | | |



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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/m3 | ppm | mg/m3 | |
| Xylene (mixture of isomers) | 1998 | 150. | 713. | 200. | 950. | A4 Vd Recommended |
| n-butyl acetate | 1996 | 100. | 434. | 150. | 651. | |
| 2-methoxy-1-methylethyl acetate | | 50. | 275. | 100. | 550. | |
| Ethylbenzene | 2002 | 100. | 434. | 125. | 543. | 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 | | DNEL Cutaneous | | DNEL Oral | |
|--|-----------------|----------|----------------|----------|------------|----------|
| | mg/m3 | | mg/kg bw/d | | mg/kg bw/d | |
| Xylene (mixture of isomers) | 289. (a) | 77.0 (c) | s/r (a) | 180. (c) | - (a) | - (c) |
| n-butyl acetate | 960. (a) | 480. (c) | - (a) | - (c) | - (a) | - (c) |
| 2-methoxy-1-methylethyl acetate | - (a) | 275. (c) | - (a) | 154. (c) | - (a) | - (c) |
| Derived no-effect level, workers: - Local effects, acute and chronic: | DNEL Inhalation | | DNEL Cutaneous | | DNEL Eyes | |
| | mg/m3 | | mg/cm2 | | mg/cm2 | |
| Xylene (mixture of isomers) | 289. (a) | s/r (c) | s/r (a) | s/r (c) | - (a) | - (c) |
| n-butyl acetate | 960. (a) | 480. (c) | - (a) | - (c) | - (a) | - (c) |
| 2-methoxy-1-methylethyl acetate | - (a) | - (c) | - (a) | - (c) | - (a) | - (c) |
| Derived no-effect level, general population: - Systemic effects, acute and chronic: | DNEL Inhalation | | DNEL Cutaneous | | DNEL Oral | |
| | mg/m3 | | mg/kg bw/d | | mg/kg bw/d | |
| Xylene (mixture of isomers) | 174. (a) | 14.8 (c) | s/r (a) | 108. (c) | s/r (a) | 1.60 (c) |
| n-butyl acetate | 860. (a) | 102. (c) | - (a) | - (c) | - (a) | - (c) |
| 2-methoxy-1-methylethyl acetate | - (a) | 33.0 (c) | - (a) | 54.8 (c) | - (a) | 1.67 (c) |
| Derived no-effect level, general population: - Local effects, acute and chronic: | DNEL Inhalation | | DNEL Cutaneous | | DNEL Eyes | |
| | mg/m3 | | mg/cm2 | | mg/cm2 | |
| Xylene (mixture of isomers) | 174. (a) | s/r (c) | s/r (a) | s/r (c) | - (a) | - (c) |
| n-butyl acetate | 860. (a) | 102. (c) | - (a) | - (c) | - (a) | - (c) |
| 2-methoxy-1-methylethyl acetate | - (a) | - (c) | - (a) | - (c) | - (a) | - (c) |

(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).



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PREDICTED NO-EFFECT CONCENTRATION (PNEC):

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| <u>Predicted no-effect concentration, aquatic organisms:</u> - Fresh water, marine water and intermitent release: Xylene (mixture of isomers) n-butyl acetate 2-methoxy-1-methylethyl acetate | <u>PNEC Fresh water</u> mg/l 0.327 0.180 0.635 | <u>PNEC Marine</u> mg/l 0.327 0.0180 0.0635 | <u>PNEC Intermittent</u> mg/l 0.327 0.360 6.35 |
| | <u>PNEC STP</u> mg/l 6.58 35.6 100. | <u>PNEC Sediments</u> mg/kg dry weight 12.5 0.981 3.29 | <u>PNEC Sediments</u> mg/kg dry weight 12.5 0.0981 0.329 |
| <u>Predicted no-effect concentration, terrestrial organisms:</u> - Air, soil and effects for predators and humans: Xylene (mixture of isomers) n-butyl acetate 2-methoxy-1-methylethyl acetate | <u>PNEC Air</u> mg/m3 - - - | <u>PNEC Soil</u> mg/kg dry weight 2.31 0.0903 0.290 | <u>PNEC Oral</u> mg/kg bw/d - - - |

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

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.

Protection of eyes and face: It is recommended to dispose of water taps or sources with clean water close to the working area.

Protection of hands and skin: It is recommended to dispose of water taps or sources with clean water 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.

OCUPATIONAL 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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| <u>Mask:</u> | For short periods of work, you can consider the utilisation of a combination mask with gas and particle filters, type A2-P2 (EN14387/EN143). 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 (EN137) is required. |
| <u>Goggles:</u> | 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. |
| <u>Face shield:</u> | No. |
| <u>Gloves:</u> | Gloves resistant against chemicals (EN374). The breakthrough time of the selected glove material should be in accordance with the pretended period of use. 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. 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. |
| <u>Boots:</u> | No. |
| <u>Apron:</u> | No. |
| <u>Clothing:</u> | Advisable. |

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.

VOC (industrial installations): If this product is used in an industrial installation, 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 : 65.2% Weight , VOC (supply) : 65.2% Weight , VOC : 47.1% C (expressed as carbon) , Molecular weight (average) : 115.9 , Number C atoms (average) : 7.0.



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SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

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| 9.1 | <p>INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:</p> <p><u>Appearance</u></p> <ul style="list-style-type: none"> - Physical state : Liquid. - Colour : Colourless. - Odour : Characteristic. - Odour threshold : Not available (mixture). <p><u>pH-value</u></p> <ul style="list-style-type: none"> - pH : Not applicable <p><u>Change of state</u></p> <ul style="list-style-type: none"> - Melting point : Not applicable (mixture). - Initial boiling point : 126.3 °C at 760 mmHg <p><u>Density</u></p> <ul style="list-style-type: none"> - Vapour density : 3.9 at 20°C 1 atm. Relative air - Relative density : 0.97 at 20/4°C Relative water <p><u>Stability</u></p> <ul style="list-style-type: none"> - Decomposition temperature : 250. °C <p><u>Viscosity:</u></p> <ul style="list-style-type: none"> - Dynamic viscosity : 24. cps 23°C - Kinematic viscosity : 8.5 mm2/s at 40°C - Viscosity (flow time) : 10. sec.FC4 23°C <p><u>Volatility:</u></p> <ul style="list-style-type: none"> - Evaporation rate : Not available - Vapour pressure : 6.8 mmHg at 20°C - Vapour pressure : 4.5 kPa at 50°C <p><u>Solubility(ies)</u></p> <ul style="list-style-type: none"> - Solubility in water: : Not applicable - Solubility in oils and fats: : Not available <p><u>Flammability:</u></p> <ul style="list-style-type: none"> - Flash point : 30. °C - Upper/lower flammability or explosive limits : 1.3 - 8.0 % Volume 25°C - Autoignition temperature : Not applicable <p><u>Explosive properties:</u> Vapours can form explosive mixtures with air and are able to flame up or explode in presence of an ignition source.</p> <p><u>Oxidizing properties:</u> Not classified as oxidizing product.</p> |
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| 9.2 | <p>OTHER INFORMATION:</p> <ul style="list-style-type: none"> - Heat of combustion : 6701. Kcal/kg - Solids : 34.8 % Weight - VOC (supply) : 65.2 % Weight - VOC (supply) : 632.7 g/l <p>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.</p> |
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SECTION 10 : STABILITY AND REACTIVITY

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| 10.1 | <p>REACTIVITY:</p> <p><u>Corrosivity to metals:</u> It is not corrosive to metals.</p> <p><u>Pyrophorical properties:</u> It is not pyrophoric.</p> |
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| 10.2 | <p>CHEMICAL STABILITY:</p> <p>Stable under recommended storage and handling conditions.</p> |
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| 10.3 | <p>POSSIBILITY OF HAZARDOUS REACTIONS:</p> <p>Possible dangerous reaction with water, oxidizing agents, acids, alkalis, amines, alcohols, peroxides. Exothermic reaction with amines and alcohols. Reacts with water under evolution of CO2.</p> |
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| 10.4 | <p>CONDITIONS TO AVOID:</p> <p><u>Heat:</u> Keep away from sources of heat.</p> <p><u>Light:</u> If possible, avoid direct contact with sunlight.</p> <p><u>Air:</u> Not applicable.</p> <p><u>Humidity:</u> 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.</p> <p><u>Pressure:</u> Not applicable.</p> <p><u>Shock:</u> Not applicable.</p> |
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| 10.5 | <p>INCOMPATIBLE MATERIALS:</p> <p>Keep away from oxidizing agents, from strongly alkaline and strongly acid materials.</p> |
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| 10.6 | <p>HAZARDOUS DECOMPOSITION PRODUCTS:</p> <p>As consequence of thermal decomposition, hazardous products may be produced, including isocyanates.</p> |
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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 :

Hexamethylene diisocyanate, oligomers
Xylene (mixture of isomers)
n-butyl acetate
2-methoxy-1-methylethyl acetate
Ethylbenzene

DL50 (OECD 401)
mg/kg oral

> 5000. Rat
4300. Rat
10768. Rat
8532. Rat
3500. Rat

DL50 (OECD 402)
mg/kg cutaneous

> 5000. Rabbit
1700. Rabbit
17600. Rabbit
> 5000. Rat
15400. Rabbit

CL50 (OECD 403)
mg/m3.4h inhalation

> 390. Rat
> 22080. Rat
> 23400. Rat
> 35700. Rat
> 17400. Rat

No observed adverse effect level

Not available

Lowest observed adverse effect level

Not available

INFORMATION ON LIKELY ROUTES OF EXPOSURE : Acute toxicity:

| Routes of exposure | Acute toxicity | Cat. | Main effects, acute and/or delayed |
|--------------------------------------|-------------------|------|--|
| <u>Inhalation:</u> Not classified | ETA > 20000 mg/m3 | - | Not classified as a product with acute toxicity if inhaled (based on available data, the classification criteria are not met). |
| <u>Skin:</u> 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). |
| <u>Eyes:</u> Not classified | Not available | - | Not classified as a product with acute toxicity by eye contact (lack of data). |
| <u>Ingestion:</u> 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 |
|---|----------------------|-------|--|
| <u>Respiratory corrosion/irritation:</u> | Respiratory ways | Cat.3 | # Not classified as a product corrosive or irritant by inhalation (based on available data, the classification criteria are not met). |
| <u>Skin corrosion/irritation:</u> | Skin | Cat.2 | # Not classified as a product corrosive or irritant in contact with skin (based on available data, the classification criteria are not met). |
| <u>Serious eye damage/irritation:</u> | Eyes | Cat.2 | # Not classified as a product corrosive or irritant in contact with eyes (based on available data, the classification criteria are not met). |
| <u>Respiratory sensitisation:</u> Not classified | - | - | Not classified as a product sensitising by inhalation (based on available data, the classification criteria are not met). |
| <u>Skin sensitisation:</u> | Skin | Cat.1 | SENSITISING: May cause an allergic skin reaction. |

ASPIRATION HAZARD:

| Danger class | Target organs | Cat. | Main effects, acute and/or delayed |
|-------------------------------|---------------|-------|---|
| <u>Aspiration hazard:</u> | Lungs | Cat.1 | # Not classified as a product hazardous by aspiration (based on available data, the classification criteria are not met). |



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SPECIFIC TARGET ORGANS TOXICITY (STOT): Single exposure (SE) and/or Repeated exposure (RE):

| Effects | SE/RE | Target organs | Cat. | Main effects, acute and/or delayed |
|--------------------------|-------|---------------|-------|--|
| <u>Cutaneous:</u> | RE | Skin | - | DEFATTENING: Repeated exposure may cause skin dryness or cracking. |
| <u>Neurological:</u> | SE | CNS | Cat.3 | NARCOTIC: May cause drowsiness or dizziness if inhaled. |

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.

DELAYED AND IMMEDIATE EFFECTS AS WELL AS CHRONIC EFFECTS FROM SHORT AND LONG-TERM EXPOSURE:

Routes of exposure: May be absorbed by inhalation of vapour, through the skin and by ingestion.
Short-term exposure: # Exposure to solvent vapour concentrations in excess of the stated occupational exposure limit, may result in adverse health effects, such as mucous membrane and respiratory system irritation and adverse effects on kidneys, liver and central nervous system. Liquid splashes in the eyes may cause irritation and reversible damage. If swallowed, may cause irritation of the throat; other effects may be the same as described in the exposure to vapours. Harmful by inhalation. Harmful in contact with skin. Irritating to skin. May cause sensitization by skin contact.
Long-term or repeated exposure: Repeated or prolonged contact may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

INTERACTIVE EFFECTS:

Not available.

INFORMATION ABOUT TOXICOCINETICS, METABOLISM AND DISTRIBUTION:

Dermal absorption:
 This preparation contains the following substances for which dermal absorption can be very high: 2-methoxy-1-methylethyl acetate.
Basic toxicokinetics: Not available.

ADDITIONAL INFORMATION:

Based on the properties of the isocyanate content of this product and existing technical data of similar preparations, it can be concluded that respiratory exposure may cause acute irritation and/or sensitization of the respiratory system, resulting in asthmatic symptoms, wheezing and a tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to airborne concentrations of isocyanates well below the occupational exposure limit. Repeated exposure may lead to permanent respiratory disability. In case of prolonged contact, the skin can dry up and irritation could appear.

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).

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| 12.1 | <u>TOXICITY:</u> | | | |
| | <u>Acute toxicity in aquatic environment for individual ingredients:</u> Hexamethylene diisocyanate, oligomers Xylene (mixture of isomers) n-butyl acetate 2-methoxy-1-methylethyl acetate Ethylbenzene | <u>CL50 (OECD 203)</u> mg/l.96hours | <u>CE50 (OECD 202)</u> mg/l.48hours | <u>CE50 (OECD 201)</u> mg/l.72hours |
| | <u>No observed effect concentration</u> n-butyl acetate 2-methoxy-1-methylethyl acetate | <u>NOEC (OECD 210)</u> mg/l.28days | <u>NOEC (OECD 211)</u> mg/l.21days | |
| | <u>Lowest observed effect concentration</u> Not available | | | |
| 12.2 | <u>PERSISTENCE AND DEGRADABILITY:</u> Not available. | | | |
| | <u>Aerobic biodegradation for individual ingredients:</u> Hexamethylene diisocyanate, oligomers Xylene (mixture of isomers) n-butyl acetate 2-methoxy-1-methylethyl acetate Ethylbenzene | <u>DQO</u> mgO2/g | <u>%DBO/DQO</u> 5 days 14 days 28 days | <u>Biodegradability</u> |
| 12.3 | <u>BIOACCUMULATIVE POTENTIAL:</u> Not available. | | | |
| | <u>Bioaccumulation for individual ingredients:</u> Hexamethylene diisocyanate, oligomers Xylene (mixture of isomers) n-butyl acetate 2-methoxy-1-methylethyl acetate Ethylbenzene | <u>logPow</u> | <u>BCF</u> L/kg | <u>Potential</u> |



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| 12.4 | <u>MOBILITY IN SOIL:</u> Not available. |
| 12.5 | <u>RESULTS OF PBT AND VPVBASESMENT:</u> Annex XIII of Regulation (EC) no. 1907/2006: Does not contain substances that fulfill the PBT/vPvB criteria. |
| 12.6 | <u>OTHER ADVERSE EFFECTS:</u> <u>Ozone depletion potential:</u> Not available. <u>Photochemical ozone creation potential:</u> Not available. <u>Earth global warming potential:</u> In case of fire or incineration liberates CO2. <u>Endocrine disrupting potential:</u> Not available. |

SECTION 13 : DISPOSAL CONSIDERATIONS

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| 13.1 | <p><u>WASTE TREATMENT METHODS:</u> 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.</p> <p><u>Disposal of empty containers:</u> 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.</p> <p><u>Procedures for neutralising or destroying the product:</u> Controlled incineration in special facilities for chemical waste, but in accordance with local regulations.</p> |
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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:**

14.4 Transport by road (ADR 2015) and Transport by rail (RID 2015): (Special provision 640E)

- 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.

14.5 **ENVIRONMENTAL HAZARDS:**
Not applicable (not classified as hazardous for the environment).

14.6 **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.

14.7 **TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE:**
Not applicable.

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: If the product is intended for the general public, is mandatory a tactile warning of danger. The technical specifications for tactile warning devices shall conform with EN ISO standard 11683 relating to 'Packaging - Tactile warnings of danger - Requirements.'

Child safety protection: If the product is intended for the general public, is required a child-resistant fastening. Child-proof fastenings used on reclosable packages shall comply with ISO standard 8317 relating to 'Child resistant packages - Requirements and methods of testing for reclosable packages.' Child-proof fastenings used on non-reclosable packages shall comply with CEN standard EN 862, relating to 'Packaging - Child-resistant packaging - Requirements and testing procedures for non-reclosable packages for non-pharmaceutical products.'

OTHER REGULATIONS:
Not available

15.2 **CHEMICAL SAFETY ASSESSMENT:**
Not applicable (mixture).



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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. 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. 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.

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.

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 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:

Version: 6
Version: 7

Revision:

24/03/2015
25/08/2015

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.