

HARDENER ALUM (slow)

Date of issue: 30.04.2018

Date of update: 07.11.2018

Version: 2.0

*Safety Data Sheet according to Regulation EC 1907/2006 of 18.12.2006 - REACH and 2015/830 of 28.05.2015***SECTION 1: Identification of the substance / mixture and the company / undertaking****1.1 Product identifier:** Hardener ALUM (slow)**1.2 Relevant identified uses of the substance or mixture and uses advised against:**

Identified uses: Universal hardener for acrylic and polyurethane paints of all kinds with an indication of dedicated clearcoat. For Professional use in Car Refinish.

Advices against uses: not specified

1.3 Data of the supplier Safety Data Sheet:**Manufacturer:** GRUPA EXLAK
44-153 Sośnicowice
ul. Kozielska 14
Tel./fax: (+48) 32 238-41-81E-mail address of the person responsible for the Safety Data Sheet: grupa.exlak@interia.pl**1.4 Emergency telephone number:** 112 (emergency telephone number), 998 (fire brigade), 999 (emergency medical service); (+48) 32 238-41-81 (from 8.00 to 16.00)**SECTION 2: Hazard identification****2.1 Classification of the substance or mixture**Classification 1272/2008:Flam. Liq. 3; H226
Asp. Tox. 1; H304
Acute Tox. 4; H332
Skin Irrit. 2; H315
Skin Sens. 1; H317
Eye Irrit. 2; H319
STOT SE 3; H335
STOT SE 3; H336
STOT RE 2; H373**Hazard to human health**

May be fatal if swallowed and enters airways. Harmful if inhaled. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. May cause respiratory irritation. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure.

Environmental hazards

None.

Physical/chemical hazards

Flammable liquid and vapour.

2.2 Label elements:**Contains:**1,6-Hexamethylene diisocyanate homopolymer (CAS: 28182-81-2)
Dimethylbenzene – mixture of isomers (CAS: 1330-20-7)
n-butyl acetate (CAS: 123-86-4)
1,6-Hexamethylene diisocyanate (CAS: 822-06-0)

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SECTION 2: Hazard identification (continued)

Pictogram(s):

Signal word: **Danger**

Hazard statements:

H226 – Flammable liquid and vapour.**H304** – May be fatal if swallowed and enters airways.**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.**H373** – May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:

P210 – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**P280** – Wear protective gloves / protective clothing / eye protection / face protection.**P301 + P310** – IF SWALLOWED: Immediately call a POISON CENTER/doctor**P304 + P340** – IF INHALED: Remove person to fresh air and keep comfortable for breathing.**P331** – Do NOT induce vomiting.**P333 + P313** – If skin irritation or rash occurs: Get medical advice / attention.**P405** – Store locked up.**EUH204**: Contains isocyanates. May produce an allergic reaction.

2.3 Other hazards:

The product does not contain substances that meet the criteria of PBT or vPvB in accordance with Annex XIII of the REACH Regulation.

SECTION 3: Composition / information on ingredients

3.1 Substances:

Not applicable.

3.2 Mixtures:

Hazardous ingredients:

| Substance name | Content % | CLP classification | |
|---|-----------|---|---|
| | | Hazard class and category codes | Phrases codes indicating type of hazard |
| 1,6- Hexamethylene diisocyanate homopolymer CAS: 28182-81-2 WE: 500-060-2 Index no: - REACH no: 01-2119485796-17-XXXX | 30 – 45 | Acute Tox. 4 Skin Sens. 1 STOT SE 3 | H332 H317 H335 |

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SECTION 3: Composition / information on ingredients (continued)

| | | | |
|---|---------|---|--|
| n-butyl acetate* CAS: 123-86-4 WE: 204-658-1 Index no: 607-025-00-1 REACH no: 01-2119485493-29-XXXX | 20 – 40 | Flam. Liq. 3 STOT SE 3 | H226 H336 |
| Dimethylbenzene – mixture of isomers* CAS: 1330-20-7 WE: 215-535-7 Index no: 601-022-00-9 REACH no: 01-2119488216-32-XXXX | 15 – 35 | Flam. Liq. 3 Asp. Tox. 1 Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2 STOT SE 3 STOT RE 2 | H226 H304 H332 H312 H315 H319 H335 H373 |
| 1-methoxy-2-propyl acetate* CAS: 108-65-6 WE: 203-603-9 Index no: 607-195-00-7 REACH no: 01-2119475791-29-XXXX | 5 – 10 | Flam. Liq. 3 | H226 |
| Ethylbenzene* CAS: 100-41-4 WE: 202-849-4 Index no: 601-023-00-4 REACH no: 01-2119489370-35-XXXX | 4 – 9 | Flam. Liq. 2 Acute Tox. 4 STOT RE 2 Asp. Tox. 1 Aquatic Chronic 3 | H225 H332 H373 H304 H412 |
| 2-Butoxyethyl acetate* CAS: 112-07-2 WE: 203-933-3 Index no: 607-038-00-2 REACH no: 01-2119475112-47-XXXX | 1 – 5 | Acute Tox. 4 | H312 H332 |
| 1,6- Hexamethylene diisocyanate CAS: 822-06-0 WE: 212-485-8 Index no: 615-011-00-1 REACH no: 01-2119457571-37-XXXX | <0,2 | Acute Tox. 1 Acute Tox. 4 Eye Irrit. 2 STOT SE 3 Skin Irrit. 2 Skin Sens. 1 Resp. Sens. 1 | H330 H302 H315 H335 H319 H317 H334 |

Full text of H phrases in section 16

* substances with a specific NDS value

SECTION 4: First aid measures

4.1 Description of first aid measures

IF ON SKIN:

Wash contaminated skin with soap and water, rinse with water. If skin irritation or a rash occurs: contact a doctor.

IF IN EYES:

Rinse with plenty of water for about 15 minutes, holding the eyelids wide open. Avoid strong stream of water - risk of cornea damage, contact a doctor.

IF INHALED:

In case of dizziness or nausea remove person to fresh air, call a doctor if there is no rapid improvement.

IF SWALLOWED:

Do NOT induce vomiting. Get immediate medical advice / attention. Do not give anything by mouth to an unconscious person.

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Contact with skin: burning, itching, redness, allergic reactions, irritation.

Contact with eyes: causes irritation

Respiratory system: irritation of nasal mucosa, throat and further parts of respiratory system, may depress central nervous system and adversely affect the internal organs – liver, kidney.

Gastrointestinal tract: chemical irritation of oral cavity, throat and further parts of gastrointestinal tract. After absorption may experience symptoms of food poisoning, abdominal pain, dizziness, nausea and vomiting. Ingestion of large amounts may lead to liver and kidney damage. There is a risk of aspiration and damage to the lungs.

4.3 Indications of any immediate medical attention and special treatment needed:

The decision on how to proceed take the doctor after examination of injured.

SECTION 5: Fire fighting measures**5.1 Extinguishing media:**

Appropriate extinguishing media: alcohol-resistant foam or dry powder (A,B,C), carbon dioxide (CO₂ type extinguisher), sand or soil, water fog. Use suitable fire extinguishing methods depending on the conditions.

Inappropriate extinguishing media: Strong stream of water.

5.2 Special hazards arising from the substance or mixture:

Flammable liquid and vapour. During a fire, high temperatures can cause release of toxic decomposition products which contain inter alia: carbon oxides, nitrogen oxides. Vapours are able to form explosive mixtures with air. Heavier than air they accumulate in depressions or in lower parts of the room – can cause the phenomenon of flashback.

5.3 Advice for firefighters:

Containers situated in zone of fire cool down by spraying water, if possible, remove from the danger zone. In case of fire in a closed room wear protective clothing and self-contained breathing apparatus. Do not allow to get through the extinguishing water to surface water, groundwater and sewage system.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

For persons not being the members of aid giving staff: inform the appropriate service. Remove from the danger zone people not involved in the liquidation of accident. Remove all possible sources of ignition.

For persons giving aid: Ensure proper ventilation, use protective gloves, protective shoes and protective clothing, use protective glasses or protective mask in the case of splashing of the product. Do not breathe vapours.

6.2 Environmental precautions:

Prevent from spreading and leakage into sewage system and water reservoir.

6.3 Methods and materials for containment and cleaning up:

Prevent from spreading and remove by gathering on absorbent material (sand, sawdust, diatomaceous soil, universal absorbent), contaminated material put in properly labelled containers for disposal in accordance with applicable regulations.

6.4 Reference to other sections

Disposal considerations – see section 13 of the Safety Data Sheet.

Personal protection measures – see section 8 of the Safety Data Sheet.

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SECTION 7: Handling and storage**7.1 Precautions for safe handling:**

Use only in well ventilated area. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Avoid spilling. Avoid breathing vapours. Do not allow to exceed the NDS value in the workplace for the product components. Avoid sources of ignition, heat, hot surfaces and open flames. Apply measures against electrostatic charges – appropriate neutralization and protective earthing during e.g. transferring contents of the containers. It is recommended to wear anti-static clothing and footwear during handling the product. Floor of the room where product is stored or used should be made of electrically conductive materials. Make sure if the electric lighting and wiring are working properly and do not constitute a potential source of ignition. Do not use cutting tools that cause sparks. Work in accordance with the principles of health and safety: do not eat and drink, do not smoke in the workplace, wash hands after use, remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities:

Store in a cool (storage temperature 5°C - 30°C), dry, well-ventilated properly labelled and tightly closed original container. Avoid direct sunlight and sources of heat, hot surfaces and open flames. Do not store materials soaked in a substance (fire hazard). If repackaging is necessary, make sure that the new packaging is suitable for the type of product. After opening close tightly containers and set upright to prevent leakage of the product. Do not store near oxidizing agents, strongly alkaline, strongly acidic products and combustible materials. Protect from moisture

7.3 Special end use(s): universal hardener for acrylic and polyurethane paints of all kinds

SECTION 8: Exposure control/personal protection**8.1 Control parameters:**

Standards of exposure for occupational hazards in accordance with the Ordinance of the Minister of Family, Labour and Social Policy regarding the maximum permissible concentrations and intensities of harmful factors to health in the work environment dated 12 June 2018 (Journal of Laws 2018, item 1286 with later changes).

Components, for which exposure standards are in force

| Name and CAS number of chemical substance | The highest acceptable concentration (mg/m ³) depending on the time of exposure during the work shift | | | Number of fibers (per cm ³) | Comments: Labeling of substances with notation „skin” |
|---|---|-------|------|---|---|
| | NDS | NDSch | NDSP | | |
| Dimethylbenzene (xylene) – mixture of isomers [CAS: 1330-20-7] | 100 | 200 | - | - | skin |
| n-butyl acetate [CAS: 123-86-4] | 240 | 720 | - | - | - |
| 1-methoxy-2-propyl acetate [CAS: 108-65-6] | 260 | 520 | - | - | skin |
| Ethylbenzene [CAS: 100-41-4] | 200 | 400 | - | - | skin |
| 2-Butoxyethyl acetate [CAS: 112-07-2] | 100 | 300 | - | - | skin |
| 1,6- Hexamethylene diisocyanate [CAS: 822-06-0] | 0,04 | 0,08 | - | - | skin |

n-butyl acetate:

DNEL for workers, prolonged exposure through the skin: 7mg/kg mc/day
 DNEL for workers, prolonged exposure through inhalation: 48mg/m³
 DNEL for consumer, prolonged exposure through the skin: 3,4mg/kg mc/day
 DNEL for consumer, prolonged exposure through inhalation: 12mg/m³
 DNEL for consumer, prolonged exposure if swallowed: 3,4mg/kg mc/day
 PNEC freshwater: 0,18mg/l

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SECTION 8: Exposure control/personal protection (continued)

PNEC sea water: 0,018mg/l
PNEC periodic release: 0,36mg/l
PNEC sewage treatment plant: 35,6mg/l
PNEC freshwater sediment: 0,981 mg/kg
PNEC sea waters sediment: 0,0981mg/l
PNEC soil: 0,0903mg/kg

1-methoxy-2-propyl acetate

DNEL for workers, short-term inhalation exposure (local effects): 550mg/m³
DNEL for workers, long-term exposure through the skin (systemic effects): 796mg/kg mc/day
DNEL for workers, long-term inhalation exposure (systemic effects): 275mg/m³
DNEL for consumer, long-term exposure through the skin (systemic effects): 320mg/kg mc
DNEL for consumer, long-term inhalation exposure (systemic effects): 33mg/m³
DNEL for consumer, long-term exposure after ingestion (systemic effects): 36mg/kg mc/day
DNEL for consumer, long-term inhalation exposure (local effects): 33mg/m³
PNEC freshwater: 0,635mg/l
PNEC sea water: 0,0635mg/l
PNEC occasional release: 6,35mg/l
PNEC sewage treatment plant: 100mg/l
PNEC freshwater sediment: 3,29mg/kg
PNEC sea waters sediment: 0,329mg/l
PNEC soil: 0,29mg/kg

2-Butoxyethyl acetate

DNEL for workers, short-term through the skin (systemic effects): 102mg/kg mc/day
DNEL for workers, short-term inhalation exposure (systemic effects): 775mg/m³
DNEL for workers, short-term inhalation exposure (local effects): 333mg/m³
DNEL for workers, long-term exposure through the skin (systemic effects): 102mg/kg mc/day
DNEL for workers, long-term inhalation exposure (local effects): 133mg/m³
DNEL for consumer, long-term exposure through the skin (systemic effects): 36mg/kg mc
DNEL for consumer, long-term inhalation exposure (systemic effects): 67mg/m³
DNEL for consumer, long-term exposure after ingestion (systemic effects): 4,3mg/kg mc/day
DNEL for consumer, short-term inhalation exposure (systemic effects): 499mg/m³
DNEL for consumer, short-term inhalation exposure (local effects): 166mg/m³
DNEL for consumer, short-term through the skin (systemic effects): 27mg/kg mc
DNEL for consumer, short-term exposure after ingestion (systemic effects): 18mg/kg mc/day
PNEC freshwater: 0,304mg/l
PNEC sea water: 0,0304mg/l
PNEC occasional release: 0,56mg/l
PNEC freshwater sediment: 2,03mg/kg
PNEC sea waters sediment: 0,203mg/l
PNEC sewage treatment plant: 90mg/l
PNEC soil: 0,68mg/kg

Maximum concentrations of dangerous component (xylene) in biological material:DSB -1,4 g/dm³ calculated on average density of urine - 1,024

Determined substance – methyl hippuric acid

Biological material – urine

Notes: sample collected once, at the end of daily exposure on any day.

Maximum concentrations of dangerous component (ethylbenzene) in biological material:

DSB -0,3 g/g creatinine

Determined substance – mandelic acid

Biological material – urine

Notes: sample collected once, at the end of daily exposure on any day.

8.2 Exposure control:**Appropriate technical control measures:** use of general ventilation of the room is recommended.

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SECTION 8: Exposure control/personal protection (continued)

Individual protection measures, such as personal protective equipment:

**Eye or face protection:**

Wear protective glasses or protective mask (in accordance with EN 166).

Skin protection:**Hand protection:**

Use protective gloves resistant to chemicals, made of viton, 0,7 mm thick, penetration time > 480 min or nitrile rubber, 0,4 mm thick, penetration time > 30 min in accordance to EN-PN 374:2005.

The material from which the gloves are made:

Choice of suitable gloves depends not only on the material, but also on the brand and quality that depends on manufacturer. Resistance of the material from which gloves are made can be determined after testing. The exact time of the destruction of the protective gloves must be determined by the manufacturer.

Other:

Wear protective clothing working - wash regularly

Respiratory system protection:

Avoid breathing vapours. In case of exceeding the NDS value in the workplace use personal respiratory system protection – mask or half mask with filter and universal or A type vapour absorber (class 1,2 or 3) in accordance with EN 141.

Thermal hazards:

Not applicable.

Control of environmental exposure

Do not allow to spread in the environment and leakage to sewage system and watercourses.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---------------------------|------------------------------------|
| Physical state | liquid |
| Colour | colourless |
| Odour | solvent - ester |
| Odour threshold | 0,9 - 9 mg/m ³ (xylene) |
| pH | not applicable |
| Melting point (range) | not applicable |
| Boiling point (range) | not specified |
| Flash point | 32°C |
| Ignition temperature | not specified |
| Evaporation rate | not specified |
| Flammability (solid, gas) | not applicable |

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SECTION 9: Physical and chemical properties (continued)

| | |
|----------------------------------|------------------------------------|
| Bottom explosion limit | 1 vol% (xylene) |
| Top explosive limit | 8 vol% (xylene) |
| Vapour pressure (20°C) | 9 hPa (xylene) |
| Relative vapour density | 4,0 (n-butyl acetate) |
| Density | About 1,0 g/cm ³ (20°C) |
| Solubility in water | very weak |
| N-octanol / water division ratio | >3 |
| Autoignition point | >200 °C |
| Breakdown point | not specified |
| Viscosity ISO 2431 (4 mm) | not specified |
| Explosive properties | not applicable |
| Oxidizing properties | not applicable |

9.2 Other information:

No additional test results.

SECTION 10: Stability and reactivity**10.1 Reactivity:**

Unknown.

10.2 Chemical stability:

Product remains stable under normal use, storage and transport conditions.

10.3 Possibility of hazardous reactions:Exothermic reaction with amines and alcohols; in the case of contact with water slow release of CO₂ – increase of pressure in closed containers; danger of bursting containers.**10.4 Conditions to be avoided:**

Avoid high temperature, direct sunlight, hot surfaces and open flames. Protect from moisture.

10.5 Incompatible materials:

Strong acids, strong alkalis, strong oxidizing agents. Combustible materials.

10.6 Hazardous decomposition products:

As a result of high temperatures toxic gases are generated – carbon oxides, nitrogen oxides.

SECTION 11: Toxicological information**11.1 Information on toxicological effects:**a) acute toxicity: **Harmful if inhaled.**

ATE mix skin: <3500mg/kg

ATE mix inhalation: <1,5mg/l (mist)

n-butyl acetateLD₅₀ (rat, male; orally)

10760 mg/kg

LC₅₀ (rat, male, female; inhalation)

23,4mg/l/h (In vivo, aerosol)

LD₅₀ (rabbit; skin)

>14000mg/kg

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SECTION 11: Toxicological information (continued)

Xylene:

Acute oral toxicity LD₅₀ (rat): 4300 mg/kg
 Acute inhalation toxicity LC₅₀ (rat): 22100 mg/m³/4h

1-methoxy-2-propyl acetate

LD₅₀ (rat; orally) >5000mg/kg
 LC₅₀ (rat; inhalation) >20mg/l, 6h
 LD₅₀ (rabbit; skin) >5000mg/kg
 LD₅₀ (rat; skin) >2000mg/kg

Ethylbenzene:

LD₅₀ (rat; orally): 3500 mg/kg
 LC₅₀ (rat; inhalation) 17800 mg/m³/4h
 TCL0 (human; inhalation) 442 mg/ m³ (8 h)

2-Butoxyethyl acetate

LD₅₀ (rat; orally) 1880mg/kg
 LD₅₀ (rabbit; skin) 1500mg/kg

1,6- Hexamethylene diisocyanate homopolymer

LD₅₀ (rat; orally) >5000mg/kg
 LD₅₀ (rabbit; skin) >2000mg/kg
 LC₅₀ (rat; inhalation) 0,554mg/l, 4h (dust/mist)

The test atmosphere generated during animal testing is not representative of the working conditions, the way substances are placed on the market and the expected method of its use. Therefore, the test results can not be used directly for risk assessment. Based on expert judgment and the weight of evidence, a modified classification of acute respiratory toxicity is justified.

Estimated point value of transformed acute toxicity: 1,5mg/l

Atmospheric control: dust / mist

Method: Expert opinion

b) corrosive effect / irritation of skin: **Causes skin irritation.**c) serious eye damage/ eye irritating effect: **Causes serious eye irritation.**d) sensitizing effect respiratory system or skin: **May cause an allergic skin reaction.**

e) mutagenic effect on reproductive cells: based on the available data, the classification criteria are not met

f) cancerogenity: based on the available data, the classification criteria are not met

g) harmful effect on reproduction: based on the available data, the classification criteria are not met

h) toxicity for specific organs – single exposure: **May cause respiratory irritation. May cause drowsiness or dizziness.**i) toxicity for specific organs – repeated exposure: **May cause damage to organs through prolonged or repeated exposure.**j) aspiration hazard: **May be fatal if swallowed and enters airways.****Information on likely routes of exposure:**Contact with skin: burning, itching, redness, allergic reactions, irritation.Contact with eyes: causes irritationRespiratory system: irritation of nasal mucosa, throat and further parts of respiratory system, may depress central nervous system and adversely affect the internal organs – liver, kidney.Gastrointestinal tract: chemical irritation of oral cavity, throat and further parts of gastrointestinal tract. After absorption may experience symptoms of food poisoning, abdominal pain, dizziness, nausea and vomiting. Ingestion of large amounts may lead to liver and kidney damage. There is a risk of aspiration and damage to the lungs.**Delayed and immediate and chronic effects from short-and long-term exposure:**

No data.

The effects of the interaction:

No data.

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SECTION 12: Ecological information**12.1. Toxicity**

Detailed studies of the environmental effects of the mixture were not carried out. A mixture not classified as dangerous. Do not allow to leakage to ground water sewage system and watercourses.

n-butyl acetate:

| | |
|---|--------------|
| LC ₅₀ – fish (<i>Pimephales promelas</i>) | 18mg/l, 96h |
| EC ₅₀ – invertebrates (<i>Daphnia</i> sp.) | 44mg/l, 48h |
| NOEC – algae (<i>Desmodesmus subspicatus</i>) | 200mg/l, 72h |
| ErC ₅₀ – algae (<i>Desmodesmus subspicatus</i>) | 648mg/l, 72h |
| IC ₅₀ – activated sludge (<i>Tetrahymina pyriformis</i>) | 356mg/l, 40h |

Xylene isomers:

| | |
|---|------------------------------|
| Acute toxicity to fish (<i>Pimephales promelas</i>) LC ₅₀ : | 16,1 mg/dm ³ /96h |
| Acute toxicity to aquatic invertebrates (<i>Daphnia magna</i>) EC ₅₀ : | 3,82 mg/dm ³ /48h |

1-methoxy-2-propyl acetate:

| | |
|--|----------------|
| LC ₅₀ – fish (<i>Oncorhynchus mykiss</i>) | 134mg/l, 96h |
| EC ₅₀ – invertebrates (<i>Daphnia magna</i>) | 408mg/l, 48h |
| ErC ₅₀ – algae (<i>Pseudokirchneriella subcapitata</i>) | >1000mg/l, 96h |

Ethylbenzene:

| | |
|---|-----------------------------|
| Acute toxicity to fish (<i>Pimephales promelas</i>) LC ₅₀ : | 49 mg/dm ³ /96h |
| Acute toxicity to aquatic invertebrates (<i>Daphnia magna</i>) EC ₅₀ : | 184 mg/dm ³ /24h |

2-Butoxyethyl acetate

| | |
|---|-----------------|
| LC ₅₀ – fish (<i>Leucidus idus</i>) | 10-100mg/l, 48h |
| EC ₅₀ – invertebrates (<i>Daphnia magna</i>) | >100mg/l, 24h |
| EC ₅₀ – algae (<i>Scenedesmus subspicatus</i>) | >100mg/l, 72h |

1,6- Hexamethylene diisocyanate homopolymer

| | |
|--|---------------|
| LC ₅₀ – fish (<i>Danio rerio</i>) | >100mg/l, 96h |
| EC ₅₀ – invertebrates (<i>Daphnia magna</i>) | >100mg/l, 48h |
| ErC ₅₀ – algae (<i>Scenedesmus subspicatus</i>) | >100mg/l, 72h |
| EC ₅₀ – bacteria (activated sludge) | >100mg/l, 3h |

12.2 Persistence and degradability**n-butyl acetate:**

Slowly hydrolyzed in water.

Hydrolysis half-time: 78 days at pH: 8 and 2 years at pH: 7 (in 25°C).

Substance is easily biodegradable: 80% within 5 days (83% within 28 days).

Xylene:

Substance is easily biodegradable in water. 50-70% after 5 days (oxygen, communal sewage)

Half-life degradation in groundwater: 20-116 days,

Half-life degradation in soil: 2-7 days

Half-life degradation in an atmosphere: 8-14 days

1-methoxy-2-propyl acetate:

Substance is easily biodegradable; >=83% within 28 days

2-Butoxyethyl acetate

Substance is easily biodegradable; >70% within 28 days

1,6- Hexamethylene diisocyanate homopolymer

Biodegradation: 1%, 28 days, it is not easily biodegradable

12.3 Bioaccumulative potential:

n-butyl acetate: log Ko/w: 2,3 (BCF expected: 15,3) – substance is not expected to bio accumulate.

Xylene: BCF <100

1-methoxy-2-propyl acetate: BCF: 3,16 – it does not bioaccumulate

2-Butoxyethyl acetate: no bioaccumulation is to be expected (log Po/w <3)

12.4 Mobility in soil:

n-butyl acetate: Ko/c: 1,27 (estimated value)

1-methoxy-2-propyl acetate: low potential

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The product does not contain substances that meet the PBT or vPvB criteria.

12.6 Other adverse effects:

No data.

SECTION 13: Disposal considerations**13.1 Waste treatment methods:**

The residue store in original containers. Waste disposal should be done by specialized companies. Dispose in accordance with current regulations.

Empty containers should be disposed or recycled in accordance with current regulations.

Recommended waste codes: in accordance with the Regulation of the Minister of Environment of 9 December 2014 regarding to waste catalogue (Journal of Laws, item 1923).

Community-based regulations:

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL 2008/98 / EC of 19 November 2008 on waste and repealing certain directives.

SECTION 14: Transport information**14.1 UN number (ONZ number):**

ADR/RID/IMDG/IATA: 1263

14.2 UN proper shipping name

ADR/RID: PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)

IMDG: PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)

IATA: Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)

14.3 Transport hazard class(es):

ADR/RID/IMDG/IATA: 3

Label: 3

**14.4 Packaging group**

ADR/RID/IMDG/IATA: III

14.5 Environmental hazards

ADR/RID/IMDG/IATA: NO

14.6 Special precautions for users

Always transport in closed containers that are upright, labelled and secured.

ADR:

Specific regulations: 163, 640E, 650

Limited quantities LQ: 5L

Hazard identification number: 30

Transport category: 3

Code of restriction of carriage through tunnels: D/E

IMDG:

Specific regulations: 163, 223, 944, 955

Limited quantities LQ: 5L

EmS: F-E, S-E

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IATA LTD QTY Pkg Inst: Y344

IATA LTD QTY Max Qty per Pkg: 10L

IATA Pkg Inst: 355

Cargo Air Packing Inst: 366

Cargo Air Max: 30L

Special Prov.: A3, A72, A192

14.7 Transport in bulk according to Annex II of MARPOL 73/78 Convention and the IBC Code

Not applicable.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

1. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 on the Registration, Evaluation, Authorization, Restriction of Chemicals (REACH) with later changes.
2. Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
3. Corrigendum to Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).
4. Regulation of the European Parliament and of the Council of 16 December 2008 No. 1272/2008 (CLP) with later changes.
5. The Act of February 25, 2011 on chemical substances and mixtures thereof (Journal of Laws No. 63, item 322) with later changes.
6. Announcement of the Speaker of the Sejm of the Republic of Poland of 28 July 2015 regarding the publication of a single text of the Act on Chemical Substances and Their Mixtures (Journal of Laws 2015 item 1203).
7. Regulation of the Minister of Health of 10 October 2013 amending the regulation on the category of dangerous substances and dangerous mixtures, the packaging of which is fitted with closures making it difficult for children to open and tactile warning of danger (Journal of Laws of 2013 No. 0 item 1225).
8. The Act of 14 December 2012 on waste (Journal of Laws of 2013 No. 0, item 21).
9. The Act of 13 June 2013 on the management of packaging and packaging waste (Journal of Laws of 2013, item 888).
10. Regulation of the Minister of the Environment of 9 December 2014 regarding the waste catalogue (Journal of Laws, item 1923).
11. Directive of the European Parliament and of the Council 2008/98 / EC of November 19, 2008 on waste and repealing certain directives.
12. Act of 19 August 2011 on the transport of dangerous goods (Journal of Laws No. 227, item 1367) with later changes.
13. Government Statement of March 23, 2015 on the entry into force of amendments to Annexes A and B to the European Agreement concerning the international carriage of dangerous goods by road (ADR), done at Geneva on 30 September 1957 (Journal of Laws 2015, item 882).
14. Regulation of the Minister of Labour and Social Policy of June 6, 2014 on the highest allowable concentrations and intensities of agents harmful to health in the work environment (Journal of Laws, item 817) with later changes.
15. Regulation of the Minister of Health of December 30, 2004 on health and safety at work related to the presence of chemical agents at work (Journal of Laws from 2005 No. 11, item 86) with later changes.
16. Decree of the Minister of Health of 9 September 2016 on the publication of a uniform text of the Regulation of the Minister of Health on occupational health and safety related to the presence of chemical agents at work (Journal of Laws of 2016, item 1488).
17. Regulation of the Minister of the Environment of 9 December 2003 on substances posing a particular threat to the environment (Journal of Laws No. 217, item 2141).

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A chemical safety assessment has been carried out for substances that are components of the mixture:

- n-butyl acetate
- Dimethylbenzene – mixture of isomers
- 1-methoxy-2-propyl acetate
- Ethylbenzene
- 2-Butoxyethyl acetate

Annex XIII of Reg. REACH – Criteria for the identification of persistent, bioaccumulative and toxic (PBT) substances and very persistent and very bioaccumulative substances (vPvB): not applicable

Annex XIV of Reg. REACH – List of substances subject to the authorization procedure: not applicable

Substances of SVHC - Candidate list of substances posing a very big threat, awaiting authorization: not applicable

Annex XVII of Reg. REACH – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles: not applicable

SECTION 16: Other information**H phrases:**

- 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.
- H336** – May cause drowsiness or dizziness.
- H373** – May cause damage to organs through prolonged or repeated exposure.
- H412** – Harmful to aquatic life with long lasting effects.

Explanation of the abbreviations, acronyms and symbols used in the Safety Data Sheet:

- Flam.Liq.2** – Liquid, flammable substances, category 2
- Flam. Liq.3** - Liquid, flammable substances, category 3
- Acute Tox.1** – Acute toxicity, category 1
- Acute Tox.4** – Acute toxicity, category 4
- Asp. Tox. 1** – Aspiration hazard, category 1
- Eye Irrit. 2** – Eye irritation, category 2
- Skin Irrit.2** – Irritating effect on skin, category 2
- Skin Sens. 1** – Skin sensitisation, category 1
- Resp. Sens. 1** – Respiratory system sensitisation, category 1
- STOT SE 3** – Toxic effect on target organs – single exposure, category 3
- STOT RE 2** – Specific target organ toxicity – repeated exposure, category 2
- Aquatic Chronic 3** – Hazardous to the aquatic environment - chronic hazard, category 3
- NDS** – Maximum permissible concentration of substances in the workplace
- NDSP** – Maximum permissible ceiling concentration
- NDSch** – Maximum permissible instantaneous concentration
- DNEL** – Derived no-effect level
- PNEC** – Predicted no-effect concentration in environment

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LC50 – (eng. lethal concentration) – median lethal concentration, statically determined concentration of substance, that after exposure can be expected, that during the exposure or during a specified, contractual period after exposure 50 % of organisms will die.

LD50 – (eng. lethal dose) – median lethal dose, statistically determined amount of single dose of substance, that after dosing can be expected death of 50 % exposed test organisms.

EC50 – (eng. effective concentration) – median effective concentration, statistically calculated concentration, which induces a certain effect in the environmental medium in 50% of experimental organisms cases under specified conditions

IC50 – (eng. inhibitory concentration) – median inhibitory concentration inhibiting 50% biological and biochemical functions of organisms

NOEC (eng. no observed effects concentration) – the highest concentration, for which there is no significant increase in frequency or intensification of effects of a substance of the test organisms as compared to the control.

BCF – bio concentration factor

vPvB – substance very persistent and very bio accumulative

PBT – persistent, bio accumulative and toxic substances

ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road

RID – Regulations concerning the International Carriage of Dangerous Goods by Rail

IMDG – International Maritime Dangerous Goods Code

IATA – International Air Transport Association airport code issued by the International Air Transport Association

Basis for classification: Classification was made by calculation method

Training:

Before starting handling the product, workers must undergo obligatorily occupational health and safety training because of presence of chemicals in the workplace. Perform, document and familiarize employees with the results of risk assessment in the workplace due to the presence of chemical agents.

SOURCE MATERIALS

Annex I to Regulation (EU) 2015/830 of 28 May 2015.

Laws set forth in section 15 of the Safety Data Sheet

Information Bureau for Chemical Substances.

Information included in this safety data sheet relate only to the product specified in the title. The data contained in the SDS should be considered only as a guidance for safe use of the product. Since the conditions of storage, handling and use are beyond our control, can not constitute a guarantee in the legal sense. In each case, you must comply with the laws and rights of third parties. SDS does not constitute the estimation of hazards in the workplace. Product should not be used for purposes other than those specified in section 1 without previous consultation with **GRUPA EXLAK** company.

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