# Safety data sheet

**In accordance with Annex II of REACH - Regulation (EU) 2020/878 and Annex II of UK REACH**

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

**1.1. Product identifier**

| | |
|---|---|
| **Code:** | **NanoPhos_04052023-001** |
| **Product name** | **NANOMAX PAVE PLUS** |
| **UFI:** | **15TV-V0JV-U00F-GMXE** |

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

| | |
|---|---|
| **Intended use** | **Solvent-based colorant for paving, structural surfaces and other cement surfaces** |

**1.3. Details of the supplier of the safety data sheet**

| | |
|---|---|
| **Name and surname Full address District and country** | **NANOPHOS SA**<br>**Technological and Cultural Park**<br>**19 500 Lavrio (Greece)**<br>**Greece**<br>**Phone +30 22920 69312**<br>**Fax +30 22920 69303** |
| **email address of the competent person responsible for the safety data sheet** | **iarabatz@NanoPhos.com** |
| **Supplier:** | **Ioannis Arabatzis** |

**1.4. Emergency telephone number**

| | |
|---|---|
| **For urgent requests, contact** | **+30 210 7793777** |

## SECTION 2. Hazard identification

**2.1. Classification of the substance or mixture**

**The product is classified as hazardous in accordance with the provisions of Regulation (EC) No. 1272/2008 (CLP) (and subsequent amendments and supplements). The product therefore requires a safety data sheet that complies with the provisions of Regulation (EU) 2020/878.**
**Any additional information on health and/or environmental risks is presented in sections 11 and 12 of this sheet.**

**Hazard classification and indication:**

| | | |
|---|---|---|
| **Flammable liquid, category 2** | **H225** | **Extremely flammable liquid and vapor.** |
| **Reproductive toxicity, category 2** | **H361fd** | **Suspected of damaging fertility. Suspected of harming the unborn child.** |
| **Specific target organ toxicity - repeated exposure, category 2 H373** | | **May cause damage to organs through prolonged or repeated exposure. exposure.** |
| **Skin irritation, category 2** | **H315** | **Causes skin irritation.** |
| **Specific target organ toxicity - single exposure, category 3 H336** | | **May cause drowsiness or dizziness.** |

**2.2. Label elements**

**Hazard labelling in accordance with Regulation (EC) No 1272/2008 (CLP) and subsequent amendments and supplements. Pictograms**

**of danger:**

**Warning words:** **danger**

**Hazard phrases:**

| | |
|---|---|
| **H225** | **Extremely flammable liquid and vapor.** |
| **H361fd** | **Suspected of damaging fertility. Suspected of harming the unborn child.** |
| **H373** | **May cause damage to organs through prolonged or repeated exposure.** |
| **H315** | **Causes skin irritation.** |
| **H336** | **May cause drowsiness or dizziness.** |

**Precautionary statements:**

| | |
|---|---|
| **P210** | **Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.** |
| **P280** | **Wear protective gloves/protective clothing/eye protection/skin protection.** |
| **front. P370+P378** | **In case of fire: use a dry powder or carbon dioxide (CO2) extinguisher to extinguish.** |
| **extinguishing. P321** | **Specific treatment (see . . . on this label).** |
| **P202** | **Do not handle until you have read and understood all safety precautions.** |
| **P242** | **Use non-sparking tools.** |
| **P403+P235** | **Store in a well-ventilated place. Keep cool.** |
| **P303+P361+P353** | **IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water [or shower].** |
| **P304+P340** | **IF INHALED: Remove person to fresh air and keep comfortable for breathing.** |
| **P362+P364** | **Remove contaminated clothing and wash before reuse.** |
| **P240** | **Grounding and bonding of containers and receiving equipment.** |
| **P243** | **Take steps to prevent static discharge.** |
| **P241** | **Use explosion-proof [electrical / ventilation / lighting / . . . ] equipment.** |
| **P103** | **Read the label before use.** |
| **P501** | **Dispose of contents or container in accordance with local/national/international regulations.** |

| | |
|---|---|
| P102 | Keep out of reach of children. |
| P101 | If medical advice is needed, have the product container or label at hand. |
| P201 | Obtain special instructions before use. |
| P312 | If you feel unwell, call a POISON CENTER or |
| a doctor. P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P264 | Wash with plenty of water and soap thoroughly after handling. |
| P260 | Do not breathe smoke, mist or spray. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P405 | Store locked. |

Contain: TOLUENE
N - BUTYL ACETATE N
- BUTYL ACETATE

VOC (Directive 2004/42/EC) :

Binding primers.

| | |
|---|---|
| VOC expressed in g/liter of product in ready-to-use state: | 699.00 |
| Limit value: | 750.00 |

2.3. Other hazards

Based on the available data, the product does not contain PBT or vPvB in a percentage greater than 0.1%. The product does not contain substances with endocrine disrupting properties in concentration greater than 0.1%.

## SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contain:

| Identification | x = Conc. % | Classification (EC) 1272/2008 (CLP) Xylene |
|---|---|---|
| INDEX 601-022-00-9 | 50 x< 55 | Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315 |
| EC 215-535-7 | | LD50 Dermal: 2000 mg/kg, ATE Inhalation vapor: 11 mg/l CAS 1330- |
| 20-7 | | |
| TOLUENE | | |
| INDEX 601-021-00-3 | 10 x< 20 | Flam. Liq. 2 H225, Repr. 2 H361fd, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336 |

| | | |
|---|---|---|
| EC 203-625-9 | | |
| CAS 108-88-3 | | |
| N-BUTYL ACETATE | | |
| INDEX 607-025-00-1 | 0 < x< 5 | Flam. Liq. 3 H226, STOT SE 3 H336, EUH066 |
| EC 204-658-1 | | |
| CAS 123-86-4 | | |
| Triethoxy(octyl)silane | | |
| INDEX - | 0 < x < 5 | Skin irritation 2 |
| H315 EC 220-941-2 | | |
| CAS 2943-75-1 | | |
| REACH Reg. 01-2119972313-39 | | |
| N - BUTYL ACETATE | | |
| INDEX 607-025-00-1 | 0 < x< 5 | Flam. Liq. 3 H226, STOT SE 3 H336, EUH066 |
| EC 204-658-1 | | |
| CAS 123-86-4 | | |

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

## SECTION 4. First aid measures

**4.1. Description of first aid measures**

**If in doubt or if symptoms are present, contact a doctor and show him/her this document. In case of more severe symptoms, seek immediate medical attention.**
**EYES: Remove contact lenses, if present and easy to do. Rinse immediately with plenty of water for at least 15 minutes, holding the eyelids wide open. Get medical advice/attention.**

**SKIN: Remove contaminated clothing. Wash immediately and thoroughly with running water (and soap, if possible). Get medical attention. Avoid further contact with contaminated clothing.**
**INGESTION: Do not induce vomiting unless directed to do so by a physician. Do not give anything by mouth to an unconscious person. Get medical advice/attention.**

**INHALATION: Remove victim to fresh air, away from the scene of the accident. In case of respiratory symptoms (cough, wheezing, difficulty breathing, asthma), keep victim in a position comfortable for breathing. If necessary, administer oxygen. If subject has stopped breathing, administer artificial respiration. Obtain medical advice/attention.**

**Rescuer's protection**

**It is good practice for rescuers providing support to a person who has been exposed to a chemical substance or mixture to wear personal protective equipment.**
**The nature of this protection depends on the hazard level of the substance or mixture, the type of exposure and the degree of contamination. In the absence of other more specific indications, the use of disposable gloves is recommended in case of possible contact with body fluids. For the type of PPE appropriate to the characteristics of the substance or mixture, see section 8.**

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

**No specific information is known regarding symptoms and effects caused by the product.**

**DELAYED EFFECTS: Based on currently available information, there are no known cases of delayed effects following exposure to this product.**

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

**If you are exposed or concerned: Get medical advice/attention.**

**Means available at the workplace for specific and immediate treatment**

Running water for washing skin and eyes.

## SECTION 5. Firefighting measures

**5.1. Extinguishing media**

ADEQUATE FIRE EXTINGUISHING EQUIPMENT
Extinguishing media are: carbon dioxide, foam, dry chemical. In the case of losses or leaks of products that have not caught fire, water spray can be used to disperse flammable vapors and protect people trying to stop the leak.
INADEQUATE EXTINGUISHING EQUIPMENT Do not
use water jets. Water is not effective for extinguishing fires, but can be used to cool containers exposed to flames to prevent explosions.

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

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE Excess
pressure may develop in containers exposed to fire with risk of explosion. Do not breathe combustion products.

**5.3. Advice for firefighters**

GENERAL INFORMATION
Use water jets to cool containers to prevent product decomposition and the release of substances potentially hazardous to health. Always wear full fire-fighting equipment. Collect extinguishing water to prevent it from flowing into the sewer system. Dispose of contaminated extinguishing water and fire debris in accordance with applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS Normal
firefighting clothing, namely firefighter's kit (BS EN 469), gloves (BS EN 659) and boots (HO specifications A29 and A30) in combination with a self-contained open-circuit positive pressure compressed air breathing apparatus (BS EN 137).

## SECTION 6. Accidental release measures

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

Block the drain if there is no danger.
Wear appropriate protective equipment (including personal protective equipment as specified in section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. This applies to both processing personnel and those involved in emergency procedures.

Remove persons who are not properly equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the spill area.

**6.2. Environmental precautions**

The product must not enter the sewage system or come into contact with surface or underground water.

**6.3. Methods and materials for containment and cleaning up**

Collect spilled product in a suitable container. Assess the compatibility of the container to be used by checking section 10. Absorb the remainder with inert absorbent material.

Ensure that the spill area is well ventilated. Contaminated material should be disposed of in accordance with the provisions of section 13.

**6.4. Reference to other sections**

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

## SECTION 7. Handling and storage

**7.1. Precautions for safe handling**

**Keep away from heat, sparks and open flames; do not smoke or use matches or lighters. In the absence of adequate ventilation, vapors may accumulate at ground level and, if are lit, they can catch fire even at a distance, with a fire hazard. Avoid the accumulation of electrostatic charges. When carrying out transfer operations involving large containers, connect to a grounding system and wear antistatic footwear. Vigorous agitation and flow through tubes and equipment can cause electrostatic charges to build up and accumulate. To avoid the risk of fire and explosion, never use compressed air during handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid release to the environment.**

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

**Keep only in the original container. Keep containers tightly closed, in a well-ventilated place, away from direct sunlight. Store in a cool, well-ventilated place, away from heat, flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.**

**7.3. Specific end use(s)**

**Information is not available.**

## SECTION 8. Exposure controls/personal protection

**8.1. Control parameters**

**Regulatory references:**

| | | |
|---|---|---|
| brothers | France | Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 December 2021 |
| GRC | Greece | ÿ.ÿ. 26/2020 (ÿÿÿ 50/ÿ` 6.3.2020) Harmonization of the Greek legislation to the provisions of the directives 2017/2398/Eÿ, 2019/130/ÿÿ and 2019/983/ÿÿ "for the amendment of Directive 2004/37/EC ``relating to protection of workers from the risks associated with exposure to carcinogens or ÿÿÿÿÿÿÿÿÿÿÿÿÿÿ factors against work |
| red | Romania | Decision No. 53/2021 amending Government Decision No. 1,218/2006, as well as and for the modification and supplementing government decision no. 1,093/2006 |
| GBR | United Kingdom | EH40/2005 Occupational Exposure Limits (Fourth Edition 2020) |
| eu | EU OEL | Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC. |
| | TLV-ACGIH | ACGIH 2023 |

**xylene**

**Threshold limit value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | GRC | 435 | 100 | 650 | 150 | |

| Predicted No Effect Concentration - PNEC | | |
|---|---|---|
| Normal value in fresh water | 0.327 | mg/l |
| Normal value in seawater | 0.327 | mg/l |
| Normal value for water sediments sweet | 12.46 | mg/kg |
| Normal value for water sediments marine | 12.46 | mg/kg |
| Normal value of STP microorganisms | 6.58 | mg/l |
| Normal value for the terrestrial compartment | 2.31 | mg/kg |
| Normal value for the atmosphere | 327 | mg/l |

**Health - Derived No Effect Level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Local news | Chronic systemic | Acute local | Acute systemic | Local Chronicle | Chronic Sistema |
| Oral | | | | 1.6 mg/kg | | | | |
| Inhalation | | 174 mg/m3 | 174 mg/m3 | 14.8 mg/m3 | | 289 mg/m3 | 289 mg/m3 | 77 mg/m3 |
| Skin | | | | 108 mg/kg | | | | 180 mg/kg |

## TOLUENE

### Threshold limit value

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | GRC | 384 | 100 | | | |

### Health - Derived No Effect Level - DNEL / DMEL

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Local news | CHRONIC Sistema | Acute local | Acute Sistema | Local Chronicle | Chronic Sistema |
| Oral | | | | 8.13 mg/kg b/w | | | | |
| Inhalation | 226 mg/m3 | 226 mg/m3 | | 56.5 mg/m3 | 384 mg/m3 | 384 mg/m3 | 192 mg/m3 | 192 mg/m3 |
| Skin | | | | 226 mg/kg bw/day | | | | 384 mg/kg b/w |

## N-BUTYL ACETATE

### Threshold limit value

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLEP | brothers | 241 | 50 | 723 | 150 | |
| TLV | GRC | 710 | 150 | 950 | 200 | |
| TLV | red | 241 | 50 | 723 | 150 | |
| WEL | GBR | 724 | 150 | 966 | 200 | |
| steel | eu | 241 | 50 | 723 | 150 | |
| TLV-ACGIH | | | 50 | | 150 | |

### Predicted No Effect Concentration - PNEC

| | | |
|---|---|---|
| Normal value in fresh water | 0.18 | mg/l |
| Normal value in seawater | 0.018 | mg/l |
| Normal value for marine water sediments | 0.0981 | mg/kg |
| Normal value for water, intermittent release | 0.981 | mg/l |
| Normal value of STP microorganisms | 35.6 | mg/l |
| Normal value for the terrestrial compartment | 0.0903 | mg/kg |

### Health - Derived No Effect Level - DNEL / DMEL

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Local news | Chronic systemic | Acute local | Acute systemic | Local Chronicle | Chronic Sistema |
| Oral | | | | 3.4 mg/kg b/w | | | | |
| Inhalation | 859.7 mg/m3 | 859.7 mg/m3 | 102.34 mg/m3 | 102.34 mg/m3 | 960 mg/m3 | 960 mg/m3 | 480 mg/m3 | 480 mg/m3 |
| Skin | | | | 3.4 mg/kg bw/day | | | | 7 mg/kg bw/day |

## N - BUTYL ACETATE

### Threshold limit value

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | GRC | 723 | 150 | | | |

| Predicted No Effect Concentration - PNEC | | |
|---|---|---|
| Normal value in fresh water | 0.18 | mg/l |
| Normal value in seawater | 0.018 | mg/l |
| Normal value for freshwater sediments | 0.981 | mg/l |
| Normal value for marine water sediments | 0.0981 | mg/l |
| Normal value for water, intermittent release | 0.36 | mg/l |
| Normal value of STP microorganisms | 35.6 | mg/l |
| Normal value for the terrestrial compartment | 0.093 | mg/kg |

Health - Derived No Effect Level - DNEL / DMEL

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Local acute | Acute systemic | Local news | CHRONIC systemic |
| Oral | 2 | 2 mg/kg bw/day | 2 | 2 mg/kg bw/day | | | | |
| Inhalation | 300 mg/m3 | 300 mg/m3 | 35.7 mg/m3 | 35.7 mg/m3 | 600 mg/m3 | 600 mg/m3 | 300 mg/m3 | 300 mg/m3 |
| Skin | | 6 mg/kg bw/d | | 6 mg/kg bw/d | | 11 mg/kg bw/d | | 11 mg/kg bw/day |

## Triethoxy(octyl)silane

Threshold limit value

| Type Country | | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| TLV | GRC | | 1000 | | 1000 | |

| Predicted No Effect Concentration - PNEC | | |
|---|---|---|
| Normal value in fresh water | 0.00189 | mg/l |
| Normal value in seawater | 0.000189 | mg/l |
| Normal value for freshwater sediments | 19 | mg/kg |
| Normal value for marine water sediments | 1.9 | mg/kg |
| Normal value of STP microorganisms | 100 | mg/l |
| Normal value for the food chain (secondary poisoning) | 10 | mg/kg |
| Normal value for the terrestrial compartment | 3.8 | mg/kg |
| Normal value for the atmosphere | 56 | mg/kg |

Health - Derived No Effect Level - DNEL / DMEL

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Local acute | Acute systemic | Local news | CHRONIC systemic |
| Oral | | | | 1.25 mg/kg b/w | | | | |
| Inhalation | | | | 4.3 mg/m3 | | | | 17.6 mg/m3 |
| Skin | | | | 1.25 mg/kg b/w | | | | 2.5 mg/kg bw/day |

**Legend:**

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

VND = hazard identified, but no DNEL/PNEC available; NEA = no expected exposure; NPI = no hazard identified; LOW = low hazard; MED = medium hazard; HIGH = high hazard.

8.2. Exposure control

Since the use of appropriate technical equipment must always take priority over personal protective equipment, ensure that the workplace is well ventilated through effective local exhaust ventilation.
When choosing personal protective equipment, seek advice from the chemical supplier. Personal protective equipment must bear the CE marking, which attests to its compliance with the applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels should be kept as low as possible to avoid significant accumulation in the body. Manage personal protective equipment in such a way as to guarantee maximum protection (e.g. reducing replacement time).

HAND PROTECTION
Protect your hands with category III work gloves.
When choosing the material for work gloves (see standard EN 374) the following must be taken into account: compatibility, degradation, permeation time.
The resistance of work gloves to chemical agents should be checked before use, as it can be unpredictable. The wear time of the gloves depends on the duration and type of use.

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

Consider providing antistatic clothing in work environments where there is a risk of explosion. EYE PROTECTION
Wear tight-fitting safety goggles (see standard EN ISO 16321).

RESPIRATORY PROTECTION
Respiratory protective devices must be used if the technical measures adopted are not adequate to limit the worker's exposure to the limit values. considered. A mask with an AX type filter is used, the class of which (1, 2 or 3) must be chosen according to the limit concentration of use. (see standard EN 14387).

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

ENVIRONMENTAL EXPOSURE CONTROL
Emissions generated by manufacturing processes, including those generated by ventilation equipment, must be verified to ensure compliance with environmental standards.

## SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

| property | Liquid | Information |
|---|---|---|
| appearance | value | |
| Color | Transparent, Grey, Black, ochre, red-brown | |
| Smell | characteristic | |
| Melting point/freezing point | not available | |

| | | |
|---|---|---|
| Initial boiling point | > 35 °C | |
| FLASH | is not available | |
| Lower explosive limit | is not available | |
| Upper explosion limit | is not available | |
| Flash point | < 23 °C | |
| Autoignition temperature | is not available | |
| Decomposition temperature | is not available | |
| pH | not available | |
| Kinematic viscosity | 6000± 1000 mm2/ | Temperature: 40 °C |
| Solubility | s not available | |
| Partition coefficient: n-octanol/water | it is not | |
| available Available vapor | it is not | |
| pressure | | |
| Density and/or relative density | 0.93 g/cm3 | |
| Relative vapor density | is not available | |
| Particle characteristics | does not apply | |

**9.2. Other information**

**9.2.1. Information on physical hazard classes**

Information is not available.

**9.2.2. Other safety features**

Information is not available.

## SECTION 10. Stability and reactivity

**10.1. Reactivity**

There are no special risks of reaction with other substances under normal conditions of use. N- ACETATE

BUTYL

Decomposes on contact with: water.

**10.2. Chemical stability**

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

**10.3. Possibility of hazardous reactions**

Vapors may also form explosive mixtures with air.

N-BUTYL ACETATE

Risk of explosion in contact with: strong oxidizing agents. may react dangerously with: alkali hydroxides, potassium tert-butoxide. forms explosive mixtures with: air.

**10.4. Conditions to avoid**

**Avoid overheating. Avoid electrostatic charge buildup. Avoid all sources of**

**ignition. N-BUTYL ACETATE**

**Avoid exposure to: moisture, heat sources, open flames.**

**10.5. Incompatible materials**

**N-BUTYL ACETATE**

**Incompatible with: water, nitrates, strong oxidants, acids, alkalis, zinc.**

**10.6. Hazardous decomposition products**

**In the event of thermal decomposition or fire, gases and vapors that are potentially hazardous to health may be released.**

## SECTION 11. Toxicological information

**In the absence of experimental data for the product itself, health hazards are assessed based on the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.**
**It is therefore necessary to consider the individual hazardous substances indicated in section 3, in order to assess the toxicological effects of exposure to the product.**

**11.1. Information on hazard classes as defined in Regulation (EC) No. 1272/2008**

**Metabolism, toxicokinetics, mechanism of action and other information Information**

**unavailable**

**Information on likely routes of exposure**

**N-BUTYL ACETATE**
**WORKERS: inhalation; skin contact.**

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

**ACETATE**

**In humans, the vapors of the substance cause irritation of the eyes and nose. In case of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear. Effects**

**interaction**

**N-BUTYL ACETATE**

**A case of acute poisoning has been reported involving a 33-year-old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person presented with conjunctival and upper respiratory tract irritation, drowsiness and motor coordination disorders, which resolved within 5 hours. The symptoms are attributed to poisoning with a mixture of xylene and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis have been reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainties regarding the responsibility of a specific solvent (INRC, 2011).**

**ACUTE TOXICITY**

| | |
|---|---|
| **ATE (Inhalation - vapour) of the mixture:** | **> 20 mg/l** |
| **ATE (oral) of the mixture:** | **Not classified (no significant components)** |

**ATE (Dermal) of the mixture:** >2000 mg/kg

xylene

| | |
|---|---|
| LD50 (Dermal): | 2000 mg/kg |
| LD50 (oral): | 4300 mg/kg |
| LC50 (inhalation vapor): | 29.1 mg/l |
| ATE (inhalation vapors): | 11 mg/l estimate from table 3.1.2 of Annex I to CLP (figure used to calculate the acute toxicity estimate of the mixture) |

TOLUENE

| | |
|---|---|
| LD50 (Dermal): | > 5000 mg/kg RABBIT |
| LD50 (oral): | 5580 mg/kg RAT |
| LC50 (inhalation vapor): | 25.7 mg/l/4h RAT |

N-BUTYL ACETATE

| | |
|---|---|
| LD50 (Dermal): | > 5000 mg/kg Rabbit |
| LD50 (oral): | > 6400 mg/kg Rat |
| LC50 (inhalation vapor): | 21.1 mg/l/4h Rat |

N - BUTYL ACETATE

| | |
|---|---|
| LD50 (Dermal): | > 14000 mg/kg RABBIT |
| LD50 (oral): | > 10000 mg/kg RAT |
| LC50 (inhalation vapor): | > 21.4 mg/l/4h TWA |

Triethoxy(octyl)silane

| | |
|---|---|
| LD50 (Dermal): | 5000 mg/kg |
| LD50 (oral): | 5110 mg/kg |
| LC50 (inhalation gas): | 22 ppm/4h |

**SKIN CORROSION / IRRITATION**

Causes skin irritation

**SERIOUS EYE INJURIES / IRRITATIONS**

Does not meet the classification criteria for this hazard class

**RESPIRATORY OR SKIN SENSITIZATION**

Does not meet the classification criteria for this hazard class

**GERM CELL MUTAGENICITY**

Does not meet the classification criteria for this hazard class

**carcinogen**

Does not meet the classification criteria for this hazard class

**REPRODUCTIVE TOXICITY**

Suspected of damaging fertility - Suspected of damaging the unborn child STOT -

**SINGLE EXPOSURE**

May cause drowsiness or dizziness.

**STOT - REPEATED EXPOSURE**

**May cause organ damage DANGER**

**SUCTION**

**Does not meet the classification criteria for this hazard class Viscosity: 6000± 1000 mm2/s**

**11.2. Information on other hazards**

**Based on available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with effects on human health under evaluation.**

## SECTION 12. Ecological information

**Use this product in accordance with good working practices. Avoid littering. Inform the authorities if the product reaches water courses or contaminates soil or vegetation.**

**12.1. Toxicity**

**N - BUTYL ACETATE**

| | |
|---|---|
| **LC50 - for fish** | **18 mg/l/96h ÿÿÿÿÿÿÿÿÿÿÿÿ ÿÿÿÿÿ** |
| **EC50 - for crustaceans** | **44 mg/l/48h toxicity for daphnia** |
| **EC50 - for algae / aquatic plants** | **675 mg/l/72h Scenedesmus subspicatus** |
| **Chronic NOEC for algae/aquatic plants** | **23 mg/l Daphnia magna for 21 days** |

**TOLUENE**

| | |
|---|---|
| **EC50 - for crustaceans** | **3.78 mg/l/48h** |

**Triethoxy(octyl)silane**

| | |
|---|---|
| **LC50 - for fish** | **> 0.055 mg/l/96h Oncorhynchus mykiss** |
| **EC50 - for crustaceans** | **> 0.049 mg/l/48h Daphnia magna** |
| **Chronic NOEC for algae/aquatic plants** | **> 0.199 mg/l** |

**xylene**

| | |
|---|---|
| **LC50 - for fish** | **2.6 mg/l/96h ONCORHYNCHUS MYKISS** |
| **EC10 for algae/aquatic plants** | **1.9 mg/l/72h Pseudokirchneriella subcapitata** |
| **Chronic NOEC for crustaceans** | **1.17 mg/l 56DAYS** |

**12.2. Persistence and degradability**

**N-BUTYL ACETATE**

| | |
|---|---|
| **Solubility in water** | **1000 - 10000 mg/l** |

**12.3. Bioaccumulative potential**

**N-BUTYL ACETATE**

| | |
|---|---|
| **Partition coefficient: n-octanol/water** | **2.3** |
| **BCF** | **15.3** |

**Triethoxy(octyl)silane**

| | |
|---|---|
| **Partition coefficient: n-octanol/water** | **6.41 Log Kow** |
| **BCF** | **1890 56 days** |

**12.4. Mobility in soil**

**Information is not available.**

**12.5. Results of PBT and vPvB assessment**

**Based on available data, the product does not contain PBT or vPvB in percentages greater than 0.1%.**

**12.6. Endocrine Disrupting Properties**

**Based on available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under assessment.**

**12.7. Other adverse effects**

**Information is not available.**

## SECTION 13. Disposal considerations

**13.1. Waste treatment methods**

**Reuse, when possible. Product residues must be considered special hazardous waste. The hazard level of waste containing this product assessed in accordance with applicable regulations.**
**Disposal must be carried out through a licensed waste management company, in accordance with national and local regulations.**
**The transport of waste may be subject to ADR restrictions.**
**CONTAMINATED PACKAGING**
**Contaminated packaging must be recovered or disposed of in accordance with national waste management regulations.**

## SECTION 14. Transport information

**14.1. UN number or identification number**

| | |
|---|---|
| **ADR / RID, IMDG, IATA:** | **UN 1263** |

**14.2. UN proper shipping name**

| | |
|---|---|
| **ADR/RID:** | **PAINT RELATED MATERIALS** |
| **IMDG:** | **MATERIAL RELATED TO PAINTS** |
| **BEHOLD:** | **PAINT RELATED MATERIALS** |

**14.3. Transport hazard class(es)**

**ADR/RID:** **Class: 3** **Tag: 3**

| | | |
|---|---|---|
| IMDG: | Class: 3 | Tag: 3 |
| BEHOLD: | Class: 3 | Tag: 3 |

**14.4. Packing group**

ADR / RID, IMDG, IATA: yl

**14.5. Environmental risks**

| | |
|---|---|
| ADR/RID: | NOT |
| IMDG: | not a marine pollutant |
| BEHOLD: | NO |

**14.6. Special precautions for the user**

| | | | |
|---|---|---|---|
| ADR/RID: | HIN - Kemler: 33 | Limited of tunnels: 5 lt | Restricted quantities code: (D/E) |
| | Special provisions: 163, 367, 640D, 650 | | |
| IMDG: | EMS: FE, SE ___ | limited Quantities: 5 lt | |
| BEHOLD: | Cargo: | Maximum packaging: 60 L | Quantity of instructions: 364 |
| | Passengers: | Maximum quantity: 5 L | packing instructions: 353 |
| | Special provision: | A3, A72, A192 | |

**14.7. Bulk maritime transport in accordance with IMO instruments**

Information that is not relevant

## SECTION 15. Regulatory Information

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

Seveso category - Directive 2012/18/EU: P5c

Restrictions relating to the product or the substances contained in accordance with Annex XVII to Regulation (EC) No 1907/2006 Product

Point 3 - 40

Substance contained

Point 75

**Point** **48** **TOLUENE**

**Regulation (EU) 2019/1148 - on the marketing and use of drug precursors**

**explosives do not apply**

**Substances on the Candidate List (Art. 59 REACH)**

**Based on the available data, the product does not contain any SVHC in percentages higher than 0.1%. Substances subject to authorisation (annex XIV REACH)**

**None**

**Substances subject to export reporting under Regulation (EU) 649/2012:**

**None**

**Substances subject to the Rotterdam Convention:**

**None**

**Substances subject to the Stockholm Convention:**

**None**

**Health checks**

**Workers exposed to this chemical agent do not need to undergo medical surveillance, provided that the available risk assessment data demonstrate that the risks to the health and safety of workers are modest and that Directive 98/24/EC is complied with.**

**VOC (Directive 2004/42/EC) :**

**Binding primers.**

**15.2. Chemical safety assessment**

**A chemical safety assessment has not been carried out for the preparation/substances indicated in section 3.**

## SECTION 16. Other information

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

| | |
|---|---|
| Flam. Liq. 2 | Flammable liquid, category 2 |
| Flam. Liq. 3 | Flammable liquid, category 3 |
| Rep. 2 | Reproductive toxicity, category 2 |
| Acute toxicity. 4 | Acute toxicity, category 4 |
| Asp. Tox. 1 | Aspiration hazard, category 1 |
| STOT RE 2 | Specific target organ toxicity - repeated exposure, category 2 |
| Irritating to skin. 2 | Skin irritation, category 2 |

| | |
|---|---|
| STOT SE 3 | Specific target organ toxicity - single exposure, category 3 |
| H225 | Extremely flammable liquid and vapor. |
| H226 | Flammable liquid and vapor. |
| H361fd | Suspected of damaging fertility. Suspected of harming the unborn child. |
| H312 | Harmful in contact with skin. |
| H332 | Harmful if inhaled. |
| H304 | It can be fatal if swallowed and enters the respiratory tract. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H315 | Causes skin irritation. |
| H336 | May cause drowsiness or dizziness. |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |

**LEGEND:**

**- ADR: European Agreement concerning the carriage of Dangerous goods by Road**

**- ATE: Acute Toxicity Estimate - CAS:**
**Chemical Abstracts Service Number - EC50: Effective**

**Concentration (necessary to induce a 50% effect)**

**- CE: Identifier in ESIS (European Archive of Existing Substances)**

**- CLP: Regulation (EC) 1272/2008 - DNEL:**
**Derived No Effect Level - EmS:**

**Emergency Schedule - GHS:**

**Globally Harmonized System of Classification and Labelling of Chemicals - IATA DGR: International**

**Air Transport Association Dangerous Goods Regulations - IC50: 50% Immobilisation Concentration - IMDG: International**

**Maritime Dangerous Goods Code - IMO:**

**International Maritime Organization - INDEX: Identifier in Annex VI to CLP -**

**LC50: Lethal Concentration 50% - LD50: Lethal**
**Dose 50% - OEL: Occupational Exposure Level -**

**PBT: Persistent, Bioaccumulative and**
**Toxic - PEC: Predicted**

**Environmental Concentration - PEL: Predicted**

**Exposure Level - PMT: Persistent, Mobile and**

**Toxic - PNEC: Predicted No Effect Concentration -**

**REACH: Regulation (EC) 1907/2006 - RID:**

**Regulation concerning the International**

**Carriage of Dangerous Goods by Rail - TLV: Threshold**

**Limit Value - TLV CEILING: Concentration that**

**should not be exceeded during occupational exposure.**

**- TWA: Time-weighted average exposure limit - TWA**
**STEL: Short-term exposure limit - VOC: Volatile**
**organic compounds - vPvB:**
**Very persistent and very bioaccumulative -**
**vPvM: Very persistent and very mobile -**
**WGK: Water hazard classes (German).**

**GENERAL BIBLIOGRAPHY**

**1. Regulation (EC) No 1907/2006 (REACH) of the European Parliament**
**2. Regulation (EC) No 1272/2008 (CLP) of the European Parliament 3.**
**Regulation (EU) 2020/878 (Annex II to the REACH Regulation)**
**4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament 5.**
**Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament 6.**
**Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament 7.**
**Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament 8.**
**Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament 9.**
**Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament 10.**
**Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament 11.**
**Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament 12.**
**Regulation (EU) 2016/1179 (IX Atp. CLP)**

**13. Regulation (EU) 2017/776 (X Atp. CLP)**
**14. Regulation (EU) 2018/669 (XI Atp. CLP)**
**15. Regulation (EU) 2019/521 (XII Atp. CLP)**
**16. Delegated Regulation (EU) 2018/1480 (XIII Atp. CLP)**
**17. Regulation (EU) 2019/1148**
**18. Delegated Regulation (EU) 2020/217 (XIV Atp. CLP)**
**19. Delegated Regulation (EU) 2020/1182 (XV Atp. CLP)**
**20. Delegated Regulation (EU) 2021/643 (XVI Atp. CLP)**
**21. Delegated Regulation (EU) 2021/849 (XVII Atp. CLP)**
**22. Delegated Regulation (EU) 2022/692 (XVIII Atp. CLP)**
**23. Delegated Regulation (EU) 2023/707**
**24. Delegated Regulation (EU) 2023/1434 (XIX Atp. CLP)**
**24. Delegated Regulation (EU) 2023/1435 (XX Atp. CLP)**
**- Merck Index. - 10th Edition**
**- Chemical safety handling**
**- INRS - Fiche Toxicologique (toxicological sheet)**
**- Patty - Industrial Hygiene and Toxicology**
**- NI Sax - Dangerous properties of Industrial Materials-7, 1989 Edition**
**- IFA GESTIS website**
**- ECHA website**
**- Database of SDS templates for chemical substances - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy**

**Note to users:**
**The information contained in this sheet is based on our own knowledge at the date of the last version. Users must verify the suitability and completeness of the information provided for each specific use of the product.**
**This document should not be considered a guarantee for any specific property of the product.**
**The use of this product is not under our direct control; therefore, users must, at their own risk, comply with applicable health and safety laws and regulations. The manufacturer is exempt from any liability resulting from improper use.**
**Provide designated personnel with adequate training on how to use the chemical products. CALCULATION METHODS FOR CLASSIFICATION**
**Chemical and physical hazards: The classification of the product is derived from the criteria set out in the CLP Regulation, Annex I, Part 2. Data for the evaluation of physicochemical properties are reported in section 9.**
**Health hazards: The classification of the product is based on the calculation methods set out in Annex I to CLP, Part 3, unless otherwise stated in section 11. Environmental hazards: The classification of the product is based on the calculation methods set out in Annex I to CLP, Part 4, unless otherwise stated in section 12.**

**Changes since the previous revision:**
**The following sections were modified: 03 / 08 / 11 / 12.**