

Safety data sheet

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

1.1. Product identifier

Product name **PP 1 ADHESION PROMOTER**

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

Intended use **Screen printing additive.**

1.3. Details of the supplier of the safety data sheet

Name **Inkcups CORPORATION**
Full address **310 Andover Street**
District and Country **Danvers, MA. 01923**
UNITED STATES of AMERICA
Tel. **978.646.8980**
Fax **978.646.8981**

e-mail address of the competent person
responsible for the Safety Data Sheet **info@inkcups.com**
Product distribution by

1.4. Emergency telephone number

For urgent inquiries refer to Chemtrec **1.800.424.9300**

SECTION 2. Hazards identification.

2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

2.1.1. Regulation 1272/2008 (CLP) and following amendments and adjustments.

Hazard classification and indication:

| | |
|---------------|------|
| Flam. Liq. 2 | H225 |
| Asp. Tox. 1 | H304 |
| STOT RE 2 | H373 |
| Eye Irrit. 2 | H319 |
| Skin Irrit. 2 | H315 |
| STOT SE 3 | H335 |

2.1.2. 67/548/EEC and 1999/45/EC Directives and following amendments and adjustments.

Danger Symbols:

F-Xn

R phrases:

11-20/21-36/37/38-48/20-65

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

2.2. Label elements.

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

Hazard pictograms:



Signal words: Danger

Hazard statements:

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H373 May cause damage to organs through prolonged or repeated exposure.
H319 Causes serious eye irritation.
H315 Causes skin irritation.
H335 May cause respiratory irritation.

Precautionary statements:

P210 Keep away from heat / sparks / open flames / hot surfaces. No smoking.
P233 Keep container tightly closed.
P264 Wash the hands thoroughly after handling.
P280 Wear protective gloves / protective clothing / eye protection / face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Contains: XYLENE (MIXTURE OF ISOMERS)

2.3. Other hazards.

Information not available.

SECTION 3. Composition/information on ingredients.

3.1. Substances.

Information not relevant.

3.2. Mixtures.

Contains:

| Identification. | Conc. %. | Classification 67/548/EEC. | Classification 1272/2008 (CLP). |
|------------------------------------|-----------|---|--|
| XYLENE (MIXTURE OF ISOMERS) | | | |
| CAS. 1330-20-7 | 45 - 47,5 | R10, Xn R20/21, Xn R48/20, Xn R65, Xi R36/37/38, Note C | Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Note C |
| EC. 215-535-7 | | | |
| INDEX. 601-022-00-9 | | | |
| Reg. no. 01-2119488216-32xxxx | | | |

ISOBUTYL ACETATE

CAS. 110-19-0

5 - 6

R66, F R11, Note C

Flam. Liq. 2 H225, EUH066, Note C

EC. 203-745-1

INDEX. 607-026-00-7

Reg. no. 01-2119488971-22-xxxx

Note: Upper limit is not included into the range.

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

T+ = Very Toxic(T+), T = Toxic(T), Xn = Harmful(Xn), C = Corrosive(C), Xi = Irritant(Xi), O = Oxidizing(O), E = Explosive(E), F+ = Extremely Flammable(F+), F = Highly Flammable(F), N = Dangerous for the Environment(N)

SECTION 4. First aid measures.**4.1. Description of first aid measures.**

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

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

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

For symptoms and effects caused by the contained substances, see chap. 11.

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

Information not available.

SECTION 5. Firefighting measures.**5.1. Extinguishing media.****SUITABLE EXTINGUISHING EQUIPMENT**

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out 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 form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters.**GENERAL INFORMATION**

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

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

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

SECTION 6. Accidental release measures.

6.1. Personal precautions, protective equipment and emergency procedures.

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions.

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

6.3. Methods and material for containment and cleaning up.

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections.

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

SECTION 7. Handling and storage.

7.1. Precautions for safe handling.

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities.

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a well ventilated place, keep far away from sources of heat, naked 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 not available.

SECTION 8. Exposure controls/personal protection.

8.1. Control parameters.

Regulatory References:

United Kingdom EH40/2005 Workplace exposure limits. Containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations (as amended).

Éire Code of Practice Chemical Agent Regulations 2011.
OEL EU Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC.
TLV-ACGIH ACGIH 2012

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value.

| Type | Country | TWA/8h | | STEL/15min | | |
|-----------|---------|--------|-----|------------|-----|------|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| OEL | IRL | 221 | 50 | 442 | 100 | SKIN |
| OEL | EU | 221 | 50 | 442 | 100 | SKIN |
| TLV-ACGIH | | 434 | 100 | 651 | 150 | |
| WEL | UK | 220 | 50 | 441 | 100 | |

Predicted no-effect concentration - PNEC.

| | | |
|--|-------|-------|
| Normal value for the terrestrial compartment | 2,31 | mg/kg |
| Normal value in fresh water | 0,327 | mg/l |
| Normal value for water, intermittent release | 0,327 | mg/l |
| Normal value in marine water | 0,327 | mg/l |
| Normal value for fresh water sediment | 12,46 | mg/kg |
| Normal value for marine water sediment | 12,46 | mg/kg |
| Normal value of STP microorganisms | 6,58 | mg/l |

Health - Derived no-effect level - DNEL / DMEL

| Route of exposure | Effects on consumers. Acute local | Acute systemic | Chronic local | Chronic systemic | Effects on workers | | | |
|-------------------|--------------------------------------|----------------|---------------|------------------|--------------------|----------------|---------------|------------------|
| | | | | | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral. | | | VND | 1,6 mg/kg/d | | | | |
| Inhalation. | 174 mg/m3 | 174 mg/m3 | VND | 14,8 mg/m3 | 289 mg/m3 | 289 mg/m3 | 77 mg/m3 | 77 mg/m3 |
| Skin. | | | VND | 108 mg/kg/d | 174 mg/m3 | VND | VND | 180 mg/kg |

ISOBUTYL ACETATE

Threshold Limit Value.

| Type | Country | TWA/8h | | STEL/15min | |
|-----------|---------|--------|-----|------------|-----|
| | | mg/m3 | ppm | mg/m3 | ppm |
| OEL | IRL | 700 | 150 | 875 | 187 |
| TLV-ACGIH | | 713 | 150 | | |
| WEL | UK | 724 | 150 | 903 | 187 |

Legend:

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

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

8.2. Exposure controls.

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

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

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

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

HAND PROTECTION

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

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

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

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a type AX filter, whose limit of use will be defined by the manufacturer (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

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

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

ENVIRONMENTAL EXPOSURE CONTROLS.

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

SECTION 9. Physical and chemical properties.**9.1. Information on basic physical and chemical properties.**

| | |
|--|--------------------|
| Appearance | liquid |
| Colour | colourless |
| Odour | typical of solvent |
| Odour threshold. | Not available. |
| pH. | Not available. |
| Melting point / freezing point. | Not available. |
| Initial boiling point. | > 35 °C. |
| Boiling range. | Not available. |
| Flash point. | < 27 °C. |
| Evaporation Rate | Not available. |
| Flammability of solids and gases | Not available. |
| Lower inflammability limit. | Not available. |
| Upper inflammability limit. | Not available. |
| Lower explosive limit. | Not available. |
| Upper explosive limit. | Not available. |
| Vapour pressure. | Not available. |
| Vapour density | Not available. |
| Relative density. | Not available. |
| Solubility | Not available. |
| Partition coefficient: n-octanol/water | Not available. |
| Auto-ignition temperature. | Not available. |
| Decomposition temperature. | Not available. |
| Viscosity | Not available. |
| Explosive properties | Not available. |
| Oxidising properties | Not available. |

9.2. Other information.

Solid content. 12,20 %

SECTION 10. Stability and reactivity.

10.1. Reactivity.

There are no particular risks of reaction with other substances in normal conditions of use.

ISOBUTYL ACETATE: decomposes under the effect of heat. Attacks various types of plastic material.

10.2. Chemical stability.

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

10.3. Possibility of hazardous reactions.

The vapours may also form explosive mixtures with the air.

XYLENE (MIXTURE OF ISOMERS): stable, but may develop violent reactions in the presence of strong oxidising agents such as sulphuric and nitric acids and perchlorates. May form explosive mixtures with the air.

ISOBUTYL ACETATE: risk of explosion on contact with: strong oxidising agents. Can react violently with: alkaline hydroxides, potassium tert-butoxides. Forms explosive mixtures with the air.

10.4. Conditions to avoid.

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

ISOBUTYL ACETATE: avoid exposure to sources of heat and naked flames.

10.5. Incompatible materials.

ISOBUTYL ACETATE: strong oxidising agents, nitrates, strong bases and acids.

10.6. Hazardous decomposition products.

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

SECTION 11. Toxicological information.

11.1. Information on toxicological effects.

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

The introduction of even small quantities of this liquid into the respiratory system in case of ingestion or vomit may cause bronchopneumonia and pulmonary edema.

This product may cause functional disorders or morphological mutations after repeated or prolonged exposure and/or may accumulate inside the human body and is thus graded as dangerous.

Acute effects: stinging eyes. Symptoms may include: rubescence, edema, pain and lachrymation.

Vapour inhalation may moderately irritate the upper respiratory tract. Contact with skin may cause slight irritation.

Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.

Acute effects: contact with skin may cause: irritation, erythema, edema, dryness and chapped skin. Vapour inhalation may slightly irritate the upper respiratory tract. Ingestion may cause health disorders, including stomach pain and sting, nausea and sickness.

Acute effects: vapour inhalation may irritate the lower and upper respiratory tract and cause cough and respiratory disorders. At higher concentrations it

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Dated

Printed on 01/12/2014

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can also cause pulmonary edema. Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.

XYLENE (MIXTURE OF ISOMERS): has a toxic effect on the CNS (encephalopathies). Irritating to the skin, conjunctivae, cornea and respiratory apparatus.

XYLENE (MIXTURE OF ISOMERS)
LD50 (Oral). 5627 mg/kg Rat
LD50 (Dermal). > 5000 mg/kg Rabbit
LC50 (Inhalation). 20 mg/l/4h Rat

ISOBUTYL ACETATE
LD50 (Oral). 4763 mg/Kg Coniglio / Rabbit

SECTION 12. Ecological information.

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

12.1. Toxicity.

XYLENE (MIXTURE OF ISOMERS)
LC50 - for Fish.
2,6 mg/l/96h Fish
EC50 - for Crustacea.
1 mg/l/48h Daphnia magna
EC10 for Algae / Aquatic Plants.
1,9 mg/l/72h Selenastrum capricornutum

ISOBUTYL ACETATE
LC50 - for Fish.
190 mg/l/96h Fish, Leuciscus idus melanotus (48h)
EC50 - for Crustacea.
168 mg/l/48h Desmodesmus subspicatus (24h)

12.2. Persistence and degradability.

XYLENE (MIXTURE OF ISOMERS)
Rapidly biodegradable.

ISOBUTYL ACETATE
Rapidly biodegradable.

12.3. Bioaccumulative potential.

Information not available.

12.4. Mobility in soil.

Information not available.

12.5. Results of PBT and vPvB assessment.

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

12.6. Other adverse effects.

Information not available.

SECTION 13. Disposal considerations.

13.1. Waste treatment methods.

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

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

Avoid littering. Do not contaminate soil, sewers and waterways.

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

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

SECTION 14. Transport information.

These goods must be transported by vehicles authorized to the carriage of dangerous goods according to the provisions set out in the current edition of the Code of International Carriage of Dangerous Goods by Road (ADR) and in all the applicable national regulations. These goods must be packed in their original packagings or in packagings made of materials resistant to their content and not reacting dangerously with it. People loading and unloading dangerous goods must be trained on all the risks deriving from these substances and on all actions that must be taken in case of emergency situations.

Road and rail transport:



| | | | |
|--------------------------|--|-----|------|
| ADR/RID Class: | 3 | UN: | 1993 |
| Packing Group: | II | | |
| Label: | 3 | | |
| Nr. Kemler: | 33 | | |
| Limited Quantity: | 1 L | | |
| Tunnel restriction code: | (D/E) | | |
| Proper Shipping Name: | FLAMMABLE LIQUID, N.O.S. (ISOBUTYL ACETATE; XYLENE (MIXTURE OF ISOMERS)) | | |
| Special Provision: | 640D | | |

Carriage by sea (shipping):



| | | | |
|-----------------------|--|------------|------|
| IMO Class: | 3 | UN: | 1993 |
| Packing Group: | II | | |
| Label: | 3 | | |
| EMS: | F-E | <u>S-E</u> | |
| Marine Pollutant: | NO | | |
| Proper Shipping Name: | FLAMMABLE LIQUID, N.O.S. (ISOBUTYL ACETATE; XYLENE (MIXTURE OF ISOMERS)) | | |

Transport by air:



| | | | |
|-------------------------|-----|-------------------|------|
| IATA: | 3 | UN: | 1993 |
| Packing Group: | II | | |
| Label: | 3 | | |
| Cargo: | | | |
| Packaging instructions: | 364 | Maximum quantity: | 60 L |
| Pass.: | | | |

| | | | |
|-------------------------|--|-------------------|-----|
| Packaging instructions: | 353 | Maximum quantity: | 5 L |
| Special Instructions: | A3 | | |
| Proper Shipping Name: | FLAMMABLE LIQUID, N.O.S. (ISOBUTYL ACETATE; XYLENE (MIXTURE OF ISOMERS)) | | |

SECTION 15. Regulatory information.

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

Seveso category. 7b

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

Product Point. 3 - 40

Substances in Candidate List (Art. 59 REACH).

None.

Substances subject to authorisation (Annex XIV REACH).

None.

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

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Healthcare controls.

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

15.2. Chemical safety assessment.

No chemical safety assessment has been processed for the mixture and the substances it contains.

SECTION 16. Other information.

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

Flam. Liq. 2 Flammable liquid, category 2

Flam. Liq. 3 Flammable liquid, category 3

| | |
|----------------------|--|
| Acute Tox. 4 | Acute toxicity, category 4 |
| Asp. Tox. 1 | Aspiration hazard, category 1 |
| STOT RE 2 | Specific target organ toxicity - repeated exposure, category 2 |
| Eye Irrit. 2 | Eye irritation, category 2 |
| Skin Irrit. 2 | Skin irritation, category 2 |
| STOT SE 3 | Specific target organ toxicity - single exposure, category 3 |
| H225 | Highly flammable liquid and vapour. |
| H226 | Flammable liquid and vapour. |
| H312 | Harmful in contact with skin. |
| H332 | Harmful if inhaled. |
| H304 | May be fatal if swallowed and enters airways. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H319 | Causes serious eye irritation. |
| H315 | Causes skin irritation. |
| H335 | May cause respiratory irritation. |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |

Text of risk (R) phrases mentioned in section 2-3 of the sheet:

| | |
|------------------|---|
| R10 | FLAMMABLE. |
| R11 | HIGHLY FLAMMABLE. |
| R20/21 | HARMFUL BY INHALATION AND IN CONTACT WITH SKIN. |
| R36/37/38 | IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN. |
| R48/20 | HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE THROUGH INHALATION. |
| R65 | HARMFUL: MAY CAUSE LUNG DAMAGE IF SWALLOWED. |
| R66 | REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS OR CRACKING. |

LEGEND:

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

- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Directive 1999/45/EC and following amendments
2. Directive 67/548/EEC and following amendments and adjustments
3. Regulation (EC) 1907/2006 (REACH) of the European Parliament
4. Regulation (EC) 1272/2008 (CLP) of the European Parliament
5. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
6. Regulation (EC) 453/2010 of the European Parliament
7. Regulation (EC) 286/2011 (II Atp. CLP) of the European Parliament
8. Regulation (EC) 618/2012 (III Atp. CLP) of the European Parliament
9. The Merck Index. - 10th Edition
10. Handling Chemical Safety
11. Niosh - Registry of Toxic Effects of Chemical Substances
12. INRS - Fiche Toxicologique (toxicological sheet)
13. Patty - Industrial Hygiene and Toxicology
14. N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
15. ECHA website

FOR PROFESSIONAL USE ONLY

This safety data sheet is prepared in accordance with the instructions provided on the relevant safety data sheets by our suppliers.

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.