Interior Solid Surface Material

HI-MACS®
Natural Acrylic Stone™

# TECHNICAL DATA SHEET

## MSDS HI-MACS® ADHESIVE COMPONENT A | ADHESIVE COMPONENT B | Material Safety Data Sheet

Photo: Baars & Bloemhoff


Last Revision Date: December 2018
Updated by: LM / LGHS, Frankfurt On The Main, Germany

LG Hausys

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

**1.1 Product identifier:** HI-MACS® JOINT ADHESIVE KIT – COMPONENT A

**1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant identified uses: Adhesive.
Uses advised against: Do not use in medical applications involving permanent implantation in the human body.

**1.3 Details of the supplier of the safety data sheet:**
LG Hausys CO., LTD.
10 Gukjegeumyoong-ro, Yeongdeungpo-gu, Seoul 07326, Korea
rukibana@lghausys.com (Europe : timlie@lghausys.com)

**1.4 Emergency telephone number:**
UK National Poisons Information Service: 0844 892 0111
(24-hour telephone information line, for healthcare professionals only)

# 2. Hazards identification

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

2.1.1 Classification according to Regulation (EC) No 1272 / 2008, GHS:

| | | |
|---|---|---|
| Physical hazard: | | |
| - Flammable liquid: | | Flam. Liq. 2, H225 |
| Health hazard: | | |
| - Skin corrosion / irritation: | | Skin Irrit. 2, H315 |
| - Serious eye damage / eye irritation: | | Eye Irrit. 2, H319 |
| - Skin sensitization: | | Skin Sens. 1, H317 |
| - Specific target organ toxicity: | – single exposure: | STOT SE 3, H335 |
| | – Target organ: | Respiratory tract irritation |
| Environmental hazard: | | |
| - Aquatic Environment | | Acute 1, Chromic 1 |

2.1.2 Classification according to Directive 1999 / 45 / EC:

| | |
|---|---|
| Highly flammable: | F; R11 |
| Irritant: | Xi; R36 / 37 / 38 |
| Sensitizing: | R43 |

2.1.3 Additional information: For full text of R-phrases and hazard statements: see chapter 16. Other information.

**2.2 Label elements:**
**Labelling according to Regulation (EC) No 1272 / 2008:**
**Hazard pictograms:**

**Signal word:** Danger
▶

**Hazard statements:**
H225 Highly flammable liquid and vapor.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects

**Precautionary statements:**
**Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. – No smoking.
P233 Keep container tightly closed.
P240 Ground / bond container and receiving equipment.
P241 Use explosion-proof electrical / ventilating / lighting / equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves / protective clothing / eye protection / face protection.
P261 Avoid breathing vapours.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P264 Wash thoroughly after handling.
P273 Avoid release to the environment.

**Responses:**
P303 + P361+ P353 IF ON SKIN (or hair): Remove / Take off Immediately all contaminated clothing. Rinse SKIN with water / shower.
P333 + P313 If skin irritation or rash occurs: Get medical advice / attention.
P362 + P364 Take off contaminated clothing and wash before reuse.
P305 + P351 + P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P363 Wash contaminated clothing before reuse.
P337 + P313 If eye irritation persists: Get medical advice / attention.
P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.
P312 IF exposed: call a POISON CENTER or doctor / physician.
P370 + P378 In case of fire: Use Dry chemical / carbon dioxide for extinction.
P391 Collect spillage. Hazardous to the aquatic environment

**Storage:**
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P235 Keep cool.

**Disposal:**
P501 Dispose of contents / container in accordance with local / regional / national / international regulations.

**Hazardous ingredients for labelling:** Methyl methacrylate.

**2.3 NFPA Rating :**
Health: 2 flammability: 3 Reactivity: 0 Water reactivity: 0

**2.4 Other hazards:** There is no additional information.

## 3. Composition / information on ingredients

**3.1 Substances:** Not relevant.
**3.2 Mixtures:** Description of the mixture: Synthetic resin(s) and filler(s). The mixture contains these substances:

| SUBSTANCE NAME | EC / CAS NO. | CLASSIFICATION | | | | CONC. (%) |
|---|---|---|---|---|---|---|
| | | 67 / 548 / EEC | CLP | | | |
| | | | HAZARD CLASS AND CATEGORY CODE(S) | HAZARD STATEMENT | PICTOGRAM / SIGNAL WORD | |
| Methyl methacrylate[1, D] | 201-297-1 / 80-62-6 | Highly flammable F; R11 Irritant Xi; R36[2] / 37 / 38 Sensitizing R43 | Flam. Liq. 2<br>Skin Irrit. 2<br>Eye Irrit. 2[2]<br>Skin Sens. 1<br>STOT SE 3 | H225<br>H315<br>H319[2]<br>H317<br>H335 | GHS02<br>GHS07<br>Dgr | 35~50 |
| PMMA[Polymer] | 618-466-4 / 9011-14-7 | - | - | - | - | 20~35 |
| Aluminum Trihydrate | 244-492-7 / 21645-51-2 | - | - | - | - | 10~20 |
| Additives | - | - | - | - | - | 3 |

1 Substance with workplace exposure limits.
2 Classification according to manufacturer.

Note D: Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier must state on the label the name of the substance followed by the words 'non-stabilised'.

For full text of H-statements and R-phrases: see chapter 16. Other information.

## 4. First aid measures

**4.1 Description of first aid measures**:

General advice

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Ingest activated charcoal. Do NOT induce vomiting. Call a physician immediately.

**4.2 Most important symptoms and effects, both acute and delayed:**
Symptoms and effects are not known to date.

**4.3 Indication of any immediate medical attention and special treatment needed:** None.

## 5. Firefighting measures

**5.1 Extinguishing media:** Suitable extinguishing media: water spray, alcohol resistant foam, dry chemical, carbon dioxide ($CO_2$). Unsuitable extinguishing media: water jet.

**5.2 Special hazards arising from the substance or mixture:** In case of insufficient ventilation and / or in use, may form flammable / explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Hazardous combustion products: nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide ($CO_2$).

**5.3 Advice for firefighters:** In case of fire and / or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

## 6. Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures:**
For non-emergency personnel: Ensure adequate ventilation. Use personal protective equipment. Remove all sources of ignition. Remove persons to safety. For emergency responders: Wear breathing apparatus if exposed to vapours.

**6.2 Environmental precautions:** Keep away from drains, surface and ground water. Retain contaminated washing water and dispose it.

**6.3 Methods and material for containment and cleaning up:** Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage (sawdust, diatomite, sand, universal binder). Place in appropriate containers for disposal. Ventilate affected area.

**6.4 Reference to other sections:**
Hazardous combustion products: see chapter 5. Firefighting measures.
Personal protective equipment: see chapter 8. Exposure controls / personal protection.
Incompatible materials: see chapter 10. Stability and reactivity.
Disposal considerations: see chapter 13. Disposal considerations.

## 7. Handling and storage

**7.1 Precautions for safe handling:** Use local and general ventilation. Keep away from sources of ignition – No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground / bond container and receiving equipment. Use explosion-proof electrical / ventilating / lighting equipment. Use only non-sparking tools. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air. Wash hands after use. Do not to eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

**7.2 Conditions for safe storage, including any incompatibilities:** Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight. Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Take precautionary measures against static discharge. Ground / bond container and receiving equipment.

**7.3 Specific end use(s):** No data available.

## 8. Exposure controls / personal protection

**8.1 Control parameters:**

Occupational exposure limit values listed in EH40 / 2005 Workplace exposure limits:

| SUBSTANCE | CAS NUMBER | WORKPLACE EXPOSURE LIMIT | | | | COMMENTS |
|---|---|---|---|---|---|---|
| | | LONG-TERM EXPOSURE LIMIT (8-HR TWA REFERENCE PERIOD) | | SHORT-TERM EXPOSURE LIMIT (15-MINUTE REFERENCE PERIOD) | | |
| | | PPM | MG / M³ | PPM | MG / M³ | |
| Methyl methacrylate | 80-62-6 | 50 | 208 | 100 | 416 | – |
| Titanium dioxide<br>total inhalable<br>respirable | 13463-67-7 | –<br>– | 10<br>4 | –<br>– | –<br>– | – |
| Carbon black | 1333-86-4 | – | 3.5 | – | 7 | – |

**8.2 Exposure controls:**

8.2.1 Appropriate engineering controls: General ventilation.

8.2.2 Individual protection measures, such as personal protective equipment:
8.2.2.1 Eye / face protection: Wear eye / face protection.
8.2.2.2 Skin protection:
Hand protection: Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness / impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Other: Take recovery periods for skin regeneration. Preventive skin protection (barrier creams / ointments) is recommended. Wash hands thoroughly after handling.
8.2.2.3 Respiratory protection: In case of inadequate ventilation wear respiratory protection.
8.2.2.4 Thermal hazards: No data available.

8.2.3 Environmental exposure controls: Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water

## 9. Physcial and chemical properties

**9.1 Information on basic physical and chemical properties:**

| | |
|---|---|
| APPEARANCE | liquid |
| | colour: various |
| ODOUR: | acrylic |
| ODOUR THRESHOLD: | no data available |
| pH: | 6.5 ~ 7.5 at 20°C *Sample: H2O=1:5(V/V) |
| MELTING POINT / FREEZING POINT: | no data available |
| INITIAL BOILING POINT AND BOILING RANGE: | > 98°C |
| FLASH POINT: | < 20°C (Rapid equilibrium method) |
| EVAPORATION RATE: | no data available |
| FLAMMABILITY (SOLID, GAS): | not applicable |
| UPPER / LOWER FLAMMABILITY OR EXPLOCIVE LIMITS: | 2.1 vol. % (lower) |
| | 12.5 vol % (upper) |
| VAPOR PRESSURE (20°C): | 39 hps |
| VAPOR DENSITY: | no data available |
| RELATIVE DENSITY: | 1.20 – 1.24 kg/l |
| SOLUBILITY(IES): | partially miscible in water |
| PARTITION COEFFICIENT: N-OCTANOL / WATER: | no data available |
| AUTO-IGNITION TEMPERATURE: | 430°C |
| DECOMPOSITION TEMPERATURE: | no data available |
| VISCOSITY: | > 1,000mPa s(cP) at 20°C |
| EXPLOSIVE PROPERTIES: | no data available |
| OXIDIZING PROPERTIES: | no data available |

**9.2 Other information:** No data available.

## 10. Stability and reactivity

**10.1 Reactivity:** Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains reactive substance(s): risk of ignition.
**10.2 Chemical stability:** No decomposition if stored and applied as directed.
**10.3 Possibility of hazardous reactions:** No data available.
**10.4 Conditions to avoid:** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. UV radiation / sunlight.
**10.5 Incompatible materials:** Oxidisers – reducing agents.
**10.6 Hazardous decomposition products:** Methyl methacrylate monomer.

## 11. Toxicological information

**11.1 Information on toxicological effects:** Test data are not available for the complete mixture.
**Substances:** Methyl methacrylate
**Acute toxicity:** LD50, oral: 7872 mg / kg (RTECS, 47796)
**Mixtures:**
Acute toxicity:

| | | | |
|---|---|---|---|
| Oral | rat | LD50: > 2,000 mg / kg | ※ from US NLM / ECHA |
| Skin | rabbit | LD50: > 2,000 mg / kg | |
| Inhalation | rat | LC50 (mist, 4h): No data available | |

Skin corrosion / irritation: Causes skin irritation.
Serious eye damage / irritation: Causes serious eye irritation.
Respiratory or skin sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.
Specific target organ toxicity (STOT) – single exposure: May cause respiratory irritation.
Specific target organ toxicity (STOT) – repeated exposure: Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.
Other information: Repeated and prolonged exposure to solvents may cause brain and nervous system damage.

## 12. Ecological information

**12.1 Toxicity:** Mixture is not classified as hazardous to the aquatic environment.

| | | | |
|---|---|---|---|
| Fish | LC50: > 100 mg / L, | 96 h | ※ from US NLM / ECHA |
| Crustacean | LC50: > 20 mg / L, | 48 h | |
| Algae | EC50: > 0.3 mg / L, | 72 h | |

**12.2 Persistence and degradability:** No data available.
**12.3 Bio-accumulative potential:** No data available.
**12.4 Mobility in soil:** No data available.
**12.5 Results of PBT and vPvB assessment:** No data available.
**12.6 Other adverse effects:** No data available.

## 13. Disposal considerations

**13.1 Waste treatment methods:** Dispose off in accordance with local and national regulations. Do not empty into drains. Avoid release to the environment. Handle contaminated packages in the same way as the substance itself.

## 14. Transport information

**14.1 UN number:** 1133
**14.2 UN proper shipping name:** ADHESIVES containing flammable liquid
**14.3 Transport hazard class(es):** 3.
**14.4 Packing group:** II
**14.5 Environmental hazards:** No data available.
**14.6 Marine pollution:** No.
**14.7 Special precautions for user:** Fire EmS Guide : F-E. Spillage EmS Guide : S-D
**14.8 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** No data available.

## 15. Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:** The substances in the mixture are not subject to the authorization under Title VII nor restrictions under Title VIII of Regulation (EC) No. 1907/2006.

**15.2 Chemical safety assessment:** Chemical safety assessment for substances in this mixture is not available.

## 16. Other information

**List of relevant hazard statements:**

| | |
|---|---|
| H225 | Highly flammable liquid and vapor. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| R11 | Highly flammable. |
| R36/37/38 | Irritating to eyes, respiratory system and skin. |
| R43 | May cause sensitization by skin contact. |

**Instructions for the training:**
Product handling instruction shall be included into the educational system about the safety work (initial training, training at the workplace, repeated training) according to specific conditions at the workplace.
▶

**Recommended restrictions on use (i.e. non-statutory recommendations by supplier):**
Mixture should not be used for any other purpose than for which is appointed (point 1.2). Because of the fact that specific conditions of use of substance are out of supplier's control, it is responsibility of the user to adjust the prescribed warnings to local laws and regulations. Safety information describes the product in terms of safety and it cannot be considered as technical information about product.

**Sources of key data used to compile the Safety Data Sheet:** SDS was elaborated according to requirements set in Annex II of Regulation (EC) No 1907 / 2006 of the European Parliament and of the Council. SDS was prepared using data from the producer. This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

**Classification procedure:**
Physical and chemical properties: The classification is based on tested mixture.
Health hazards / environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

**Purpose of SDS:** Purpose of this SDS is to provide relevant information for users of product to ensure proper handling and control of risks / hazards.

**Abbreviations and acronyms**

| | |
|---|---|
| CLP | Regulation (EC) No 1272 / 2008 on classification, labelling and packaging of substances and mixtures |
| EH40 / 2005 | EH40 / 2005 Workplace exposure limits, Table 1: List of approved workplace exposure limits |
| Eye Irrit. | eye irritation |
| F | highly flammable |
| Flam. Liq. | flammable liquid |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| PBT | Persistent, Bioaccumulative and Toxic |
| ppm | parts per million |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| Skin Irrit. | skin irritation |
| Skin Sens. | skin sensitisation |
| STOT SE | specific target organ toxicity – single exposure |
| vPvB | very Persistent and very Bioaccumulative |
| Xi | irritant |

# ADHESIVE B

**Interior Solid Surface Material**

HI-MACS®
Natural Acrylic Stone™

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

**1.1 Product identifier:** HI-MACS® JOINT ADHESIVE KIT – COMPONENT B
**1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant identified uses: Adhesive.
Uses advised against: Do not use in medical applications involving permanent implantation in the human body.
**1.3 Details of the supplier of the safety data sheet:**
LG Hausys CO., LTD.
10 Gukjegeumyoong-ro, Yeongdeungpo-gu, Seoul 07326, Korea
rukibana@lghausys.com (Europe: timlie@lghausys.com)
**1.4 Emergency telephone number:**
UK National Poisons Information Service: 0844 892 0111 (24-hour telephone information line, for healthcare professionals only)

## 2. Hazards identification

**2.1 Classification of the substance or mixture:**
**2.1.1 Classification according to Regulation (EC) No 1272 / 2008, GHS:**
Skin sensitization: Skin Sens. Category 1, H317
Eye Irritation: Eye Irrit. Category 2, H319
Aquatic Environment: Chronic 2
**2.1.2 Classification according to Directive 1999 / 45 / EC:**
Sensitizing: R43
**2.1.3 Additional information:** For full text of R-phrases and hazard statements: see chapter 16.
Other information.
**2.2 Label elements:**
**Labelling according to Regulation (EC) No 1272 / 2008:**
**Hazard pictograms:**

**Signal word:** Warning

**Hazard statements:**
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements:**
P261 Avoid breathing vapours.
P280 Wear protective gloves / protective clothing / eye protection / face protection.
P272 Contaminated work clothing should not be allowed out of the workplace.
P264 Wash thoroughly after handling.
▶

P273 Avoid release to the environment.
P302 + P352 IF ON SKIN: wash with plenty of water.
P333 + P313 IF SKIN irritation or rash occurs: Get medical advice / attention.
P362 + P364 Take off contaminated clothing and wash before reuse.
P305 + P351 + P338 If in eyes: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice / attention.
P391 Collect spillage. Hazardous to the aquatic environment
P363 Wash contaminated clothing before reuse.
P501 Dispose of contents / container in accordance with local / regional / national / international regulations.

**Hazardous ingredients for labelling:** Dibenzoyl peroxide.

**2.3 NFPA Rating:**
Health: 2 Flammability: 1 Reactivity: 0 Water reactivity: 0

**2.4 Other hazards:** There is no additional information.

## 3. Composition / information on ingredients

**3.1 Substances:** Not relevant.
**3.2 Mixtures:** Description of the mixture: Plasticizer. The mixture contains these substances:

| SUBSTANCE NAME | EC / CAS NO. | CLASSIFICATION | | | | CONC. (%) |
|---|---|---|---|---|---|---|
| | | 67 / 548 / EEC | CLP | | | |
| | | | HAZARD CLASS AND CATEGORY CODE(S) | HAZARD STATEMENT | PICTOGRAM / SIGNAL WORD | |
| Dipropylene glycol dibenzoate | 248-258-5 / 27138-31-4 | – | – | – | – | 94 |
| Dibenzoyl peroxide[1] | 202-327-6 / 94-36-0 | Explosive E; R3 Oxidising O; R7 Irritant Xi; R36S ensitising R43 | Org. Perox. B Eye Irrit. 2 Skin Sens. 1 | H241 H319 H317 | GHS01 GHS02 GHS07 Dgr | 3 |
| Fumed silica, cryst.-free[1] | 601-216-3 / 112945-52-5 | – | – | – | – | 3 |

1 Substance with workplace exposure limits.

For full text of H-statements and R-phrases: see chapter 16. Other information.

## 4. First aid measures

**4.1 Description of first aid measures:**

General advice

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Ingest activated charcoal. Do NOT induce vomiting. Call a physician immediately.

**4.2 Most important symptoms and effects, both acute and delayed:** Symptoms and effects are not known to date.

**4.3 Indication of any immediate medical attention and special treatment needed:** None.

## 5. Firefighting measures

**5.1 Extinguishing media:**

Suitable extinguishing media: water spray, alcohol resistant foam, dry chemical, carbon dioxide ($CO_2$).
**Unsuitable extinguishing media:** water jet.

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

Hazardous combustion products: nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide ($CO_2$).

**5.3 Advice for firefighters:** In case of fire and / or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

## 6. Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures:**
For non-emergency personnel: Ensure adequate ventilation. Use personal protective equipment. Remove all sources of ignition. Remove persons to safety. For emergency responders: Wear breathing apparatus if exposed to vapors.

**6.2 Environmental precautions:** Keep away from drains, surface and ground water. Retain contaminated washing water and dispose it.

**6.3 Methods and material for containment and cleaning up:** Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage (sawdust, diatomite, sand, universal binder). Place in appropriate containers for disposal. Ventilate affected area.

**6.4 Reference to other sections:**
Hazardous combustion products: see chapter 5. Firefighting measures.
Personal protective equipment: see chapter 8. Exposure controls / personal protection.
Incompatible materials: see chapter 10. Stability and reactivity.
Disposal considerations: see chapter 13. Disposal considerations.

## 7. Handling and storage

**7.1 Precautions for safe handling:** Use local and general ventilation. Keep away from sources of ignition – No smoking. Use only in well-ventilated areas. Wash hands after use. Do not to eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

**7.2 Conditions for safe storage, including any incompatibilities:** Keep at temperatures below 30°C. Water mist may be used to cool closed containers. Incompatible products: Polymerization accelerators and easily oxidized materials. Reacts violently in contact with acids, amines, driers.

**7.3 Specific end use(s):** No data available.

## 8. Exposure controls / personal protection

**8.1 Control parameters:**

Occupational exposure limit values listed in EH40 / 2005 Workplace exposure limits:

| SUBSTANCE | CAS NUMBER | WORKPLACE EXPOSURE LIMIT | | | | COMMENTS |
|---|---|---|---|---|---|---|
| | | LONG-TERM EXPOSURE LIMIT (8-HR TWA REFERENCE PERIOD) | | SHORT-TERM EXPOSURE LIMIT (15-MINUTE REFERENCE PERIOD) | | |
| | | PPM | MG / M³ | PPM | MG / M³ | |
| Dibenzoyl peroxide | 94-36-0 | – | 5 | – | – | – |
| Fumed silica, Crystalline-free | – | – | 0,1 | – | – | – |

**8.2 Exposure controls:**

8.2.1 Appropriate engineering controls: General ventilation.

8.2.2 Individual protection measures, such as personal protective equipment
8.2.2.1 Eye / face protection: Wear eye / face protection.
8.2.2.2 Skin protection:
**Hand protection:** Wear suitable gloves. Chemical protection gloves are suitable, which are tested a ccording to EN 374. Check leak-tightness / impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
**Other:** Take recovery periods for skin regeneration. Preventive skin protection (barrier creams / ointments) is recommended. Wash hands thoroughly after handling.
8.2.2.3 Respiratory protection: In case of inadequate ventilation wear respiratory protection.
8.2.2.4 Thermal hazards: No data available.

8.2.3 Environmental exposure controls: Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## 9. Physical and chemical properties

**9.1 Information on basic physical and chemical properties:**

| | |
|---|---|
| APPEARANCE | liquid |
| | colour: light yellow |
| ODOUR: | slight |
| ODOUR THRESHOLD: | no data available |
| pH: | 6.5 ~ 7.5 at 20°C ※ Sample : $H_2O$ = 1:5 (V/V) |
| MELTING POINT / FREEZING POINT: | no data available |
| INITIAL BOILING POINT AND BOILING RANGE: | > 100°C |
| FLASH POINT: | 230°C (Cleveland open cup) |
| EVAPORATION RATE: | no data available |
| FLAMMABILITY (SOLID, GAS): | not applicable |
| UPPER / LOWER FLAMMABILITY OR EXPLOCIVE LIMITS: | no data available |
| VAPOR PRESSURE (20°C): | 1.3 hps |
| VAPOR DENSITY: | no data available |
| RELATIVE DENSITY: | 1.1 at 20°C |
| SOLUBILITY(IES): | immiscible in water |
| PARTITION COEFFICIENT: N-OCTANOL / WATER: | no data available |
| AUTO-IGNITION TEMPERATURE: | No spontaneous combustion under 200°C |
| DECOMPOSITION TEMPERATURE: | 103°C |
| VISCOSITY: | > 1,000 mPa . s (cP) at 20 °C |
| EXPLOSIVE PROPERTIES: | no data available |
| OXIDIZING PROPERTIES: | no data available |

**9.2 Other information:** No data available.

## 10. Stability and reactivity

**10.1 Reactivity:** Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".
**10.2 Chemical stability:** Decomposition starting from 103°C: Dibenzoyl peroxide 100%.
**10.3 Possibility of hazardous reactions:** No data available.
**10.4 Conditions to avoid:** Keep away from heat and ignition sources.
**10.5 Incompatible materials:** Reacts violently in contact with acids, amines, driers, polymerization accelerators and easily oxidized materials.
**10.6 Hazardous decomposition products:** Benzoic acid, biphenyls, benzene.

## 11. Toxicological information

**11.1 Information on toxicological effects:** Test data are not available for the complete mixture.

**Substances:**
Oxydipropyl dibenzoate
Acute toxicity: LD50, oral: 8000 mg / kg (RTECS, 59814)

Dibenzoyl peroxide
Acute toxicity: LD50, oral: 7710 mg / kg (RTECS, 19455)

**Mixtures:**
Acute toxicity: Based on available data, the classification criteria are not met.

| | | | |
|---|---|---|---|
| Oral | rat | LD50 : > 2,000 mg / kg | ※ from US NLM / ECHA |
| Skin | rabbit | LD50 : No data available | |
| Inhalation | rat | LC50 (mist, 4h) : No data available | |

Skin corrosion / irritation: Based on available data, the classification criteria are not met.
Serious eye damage / irritation: Based on available data, the classification criteria are not met.
Respiratory or skin sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.
Specific target organ toxicity (STOT) – single exposure: Based on available data, the classification criteria are not met.
Specific target organ toxicity (STOT) – repeated exposure: Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.
Other information: Repeated and prolonged exposure to solvents may cause brain and nervous system damage

## 12. Ecological information

**12.1 Toxicity:** Mixture is not classified as hazardous to the aquatic environment.

| | | | |
|---|---|---|---|
| Fish | LC50 : > 2.0 mg/L, | 96 h | ※ from US NLM/ECHA |
| Crustacean | LC50 : > 2.0 mg/L, | 48 h | |
| Algae | EC50 : > 1.0 mg/L, | 72 h | |

**12.2 Persistence and degradability:** No data available.
**12.3 Bio-accumulative potential:** No data available.
**12.4 Mobility in soil:** No data available.
**12.5 Results of PBT and vPvB assessment:** No data available.
**12.6 Other adverse effects:** No data available.

## 13. Disposal considerations

**13.1 Waste treatment methods:** Dispose off in accordance with local and national regulations. Do not empty into drains. Avoid release to the environment. Handle contaminated packages in the same way as the substance itself.

## 14. Transport information

**14.1 UN number:** No data available.
**14.2 UN proper shipping name:** No data available.
**14.3 Transport hazard class(es):** No data available.
**14.4 Packing group:** No data available.
**14.5 Environmental hazards:** No data available.
**14.6 Special precautions for user:** No data available.
**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** No data available.

## 15. Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:** The substances in the mixture are not subject to the authorization under Title VII nor restrictions under Title VIII of Regulation (EC) No. 1907/2006.
**15.2 Chemical safety assessment:** Chemical safety assessment for substances in this mixture is not available.

## 16. Other information

**List of relevant hazard statements:**

| | |
|---|---|
| H241 | Heating may cause a fire or explosion. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |

▶

| | |
|---|---|
| R3 | Extreme risk of explosion by shock, friction, fire or other sources of ignition. |
| R7 | May cause fire. |
| R36 | Irritating to eyes. |
| R43 | May cause sensitization by skin contact. |

**Instructions for the training:** Product handling instruction shall be included into the educational system about the safety work (initial training, training at the workplace, repeated training) according to specific conditions at the workplace.

**Recommended restrictions on use (i.e. non-statutory recommendations by supplier):** Mixture should not be used for any other purpose than for which is appointed (point 1.2). Because of the fact that specific conditions of use of substance are out of supplier's control, it is responsibility of the user to adjust the prescribed warnings to local laws and regulations. Safety information describes the product in terms of safety and it cannot be considered as technical information about product.

**Sources of key data used to compile the Safety Data Sheet:** SDS was elaborated according to requirements set in Annex II of Regulation (EC) No 1907 / 2006 of the European Parliament and of the Council. SDS was prepared using data from the producer. This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

**Classification procedure:**
Physical and chemical properties: The classification is based on tested mixture. Health hazards / environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

**Purpose of SDS:** Purpose of this SDS is to provide relevant information for users of product to ensure proper handling and control of risks / hazards.

**Abbreviations and acronyms**

| | |
|---|---|
| CLP | Regulation (EC) No 1272 / 2008 on classification, labelling and packaging of substances and mixtures |
| EH40 / 2005 | EH40 / 2005 Workplace exposure limits, Table 1: List of approved workplace exposure limits |
| E | explosive |
| Eye Irrit. | eye irritation |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| O | oxidising |
| Org. Perox. | organic peroxide |
| PBT | Persistent, Bioaccumulative and Toxic |
| ppm | parts per million |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| Skin Sens. | skin sensitisation |
| vPvB | very Persistent and very Bioaccumulative |
| Xi | irritant |

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