

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

1.1 Product identifier:

Product name: DMD-31

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

Product use: 3D printing ink.
Advised against: None known.

1.3 Details of the supplier of the safety data sheet manufacturer:

Kęstučio g. 6A, LT-44320 Kaunas

1.4 Emergency telephone number (with hours of operation) :

+370 602 42209, hours of operation: 9AM – 5PM (UTC+2 EET)

History:

Date of previous issue: 02.27.2020

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture:

H317 Skin Sensitizer Hazard Category 1
H319 Eye irritation Category 2.
H361 Reproductive toxicity Hazard Category 2
H411 Aquatic Environment Acute Hazard Category 2

Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard pictograms:



Signal word:
Warning

Hazard statements:

H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H361 Suspected of damaging fertility or the unborn child.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

P202 Do not handle until all safety precautions have been read and understood.
 P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
 P264 - Wash face, hands and any exposed skin thoroughly after handling.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P303+P352 IF ON SKIN: Wash with plenty of soap and water.
 P308+P313 If exposed or concerned: Get medical advice/ attention.
 P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P501 Dispose of contents/ bottles in accordance with national regulations.
 P321 Specific treatment (see supplemental first aid instructions on this label).
 P391 Collect spillage.
 P405 Store locked up.
 P501 Dispose of contents/ container in accordance with national regulations.

2.3 Other hazards:

Polymerization may occur from excessive heat, contamination or exposure to direct sunlight.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description of the mixture:

Mixture

Hazardous ingredients:

| Substance name | CAS No. | Concentration | Classification according Regulation (EC) No. 1272 [CLP] |
|--|------------|---------------|--|
| (octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate | 42594-17-2 | 75-95% | Skin Sens. 1B (H317) Aquatic Chronic 2 (H411) |
| Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 75980-60-8 | 1-4% | Skin Sens. 1B (H317) Repr. 2 (H361) Aquatic Chronic 2 (H411) |

Additional information:

Full text of H- and EUH-phrases: see SECTION 16.

The specific chemical identity and/or exact percentage of composition for one or more ingredients has been withheld as a trade secret.

This product does not contain any substances classified as PBT or vPvB.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.

Inhalation:

Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact:

Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners. In case of accidental skin contact, avoid concurrent exposure to the sun or other sources of UV light which may increase the sensitivity of skin.

Eye contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention/advice.

Ingestion:

Get medical attention immediately. Call a physician. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Give nothing by mouth. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Self-protection of the first aider:

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

| | |
|----------------------------|---|
| General information | See Section 11 for additional information on health hazards. |
| Inhalation | Vapours may irritate throat/respiratory system. |
| Ingestion | May cause discomfort if swallowed. |
| Skin contact | A single exposure may cause the following adverse effects: Allergic rash. |
| Redness. Irritation. | |
| Eye contact | May be slightly irritating to eyes. |

4.3 Indication of any immediate medical attention and special treatment needed

Notes for the doctor: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Special treatment: No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing media:

Use fire-extinguishing media suitable for the surrounding fire. Extinguish with alcohol-resistant

foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media:

Do not use water jet as an extinguisher, as this will spread the fire.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture:

In a fire or if heated, a pressure increase will occur, and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products:

Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

5.3 Advice for fire-fighters

Special protective actions for fire-fighters:

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Do not release runoff from fire to drains or watercourses.

Special protective equipment for fire-fighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders:

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions:

Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.3 Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Preferably clean with a detergent. Avoid using solvents.

6.4 Reference to other sections

See Section 1 for emergency contact information. See Section 13 for additional waste treatment information. See Section 8 for information on appropriate personal protective equipment.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Pregnant or breastfeeding women should not work with this product if there is any risk of exposure. For use in industrial installations or professional treatment only. Do not handle until all safety precautions have been read and understood. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Use only in well-ventilated areas. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Put on appropriate personal protective equipment (see Section 8). Always keep in containers made from the same material as the original one. Comply with the health and safety at work laws.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with all local, regional, national and international regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Observe label precautions. Keep container tightly closed and in a well-ventilated place. Keep away from sources of ignition - No smoking. Prevent unauthorized access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Storage temperature: 15 to 25°C.

7.3 Specific end uses:

Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits: Not applicable.

Other exposure limits: CMR: See toxicological information (Section 11)

DNELs/PNECs values:

No DNELs/PNECs available

8.2 Exposure controls

Provide adequate ventilation. Where reasonably practicable, this should be achieved using local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapors below the OEL, suitable respiratory protection must be worn.

Individual protection measures:

Hygiene measures:

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection:

No applicable.

Body protection:

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Hand protection:

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye/face protection:

Use safety eyewear designed to protect against splash of liquids.

Environmental exposure controls:

Do not allow to enter drains or water.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:

| | Value | Concentration | Method | Temperature | Pressure | Remark |
|---|-----------------------|---------------|--------|-------------|----------|---------------------------|
| <i>pH</i> | - | - | - | - | - | <i>Not available</i> |
| <i>Melting point/freezing point</i> | - | - | - | - | - | <i>Not available</i> |
| <i>Initial boiling point/boiling range</i> | ≥ 150 | - | - | - | - | - |
| <i>Flash point</i> | <i>Non Flammable</i> | - | - | - | - | <i>Theoretical</i> |
| <i>Evaporation rate</i> | - | - | - | - | - | <i>Not available</i> |
| <i>Flammability (solid, gas)</i> | - | - | - | - | - | <i>Not available</i> |
| <i>Upper/lower flammability or explosive limits</i> | - | - | - | - | - | <i>Not available</i> |
| <i>Upper explosive limits</i> | - | - | - | - | - | <i>Not available</i> |
| <i>Lower explosive limits</i> | - | - | - | - | - | <i>Not available</i> |
| <i>Vapor pressure</i> | $< 0.0274 \text{ Pa}$ | - | - | - | - | - |
| <i>Vapor density</i> | - | - | - | - | - | <i>Not available</i> |
| <i>Relative density</i> | 1.06 g/cm^3 | - | - | - | - | <i>Not available</i> |
| <i>Solubility in Water</i> | 9.78 mg/L | - | - | - | - | <i>Insoluble in water</i> |
| <i>Partition coefficient: n-octanol/water</i> | $4.54 - 4.64$ | - | - | - | - | <i>Not available</i> |
| <i>Auto-ignition temperature</i> | <i>Not available</i> | - | - | - | - | <i>Not available</i> |
| <i>Decomposition temperature</i> | - | - | - | - | - | <i>Not available</i> |
| <i>Viscosity, kinematic 20°C</i> | - | - | - | - | - | - |
| <i>Explosive properties</i> | - | - | - | - | - | <i>Not available</i> |
| <i>Oxidizing properties</i> | - | - | - | - | - | <i>Not available</i> |

Physical state: Liquid; **Odor:** Slight acrylic; **Odor threshold:** Not available

SECTION 10: Stability and reactivity

10.1 Reactivity

Not available.

10.2 Chemical stability

This mixture contains materials which are unstable under the following conditions: exposure to heat strong and UV sources.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid:

When exposed to high temperatures may produce hazardous decomposition products. These could cause the product to polymerize exothermically. Unintentional contact with them should be avoided.

10.5 Incompatible materials:

Keep away from: strong alkalis, free radical initiators, peroxides, reactive metals

10.6 Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

Irritation/Corrosion:

Causes serious eye damage. Irritating to respiratory system. Irritating to skin.

Sensitization:

May produce an allergic reaction. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. Cases of hypersensitivity may occur, possibly with cross-sensitization to other acrylate materials.

Mutagenicity:

Not available.

Carcinogenicity:

Not available.

Reproductive toxicity:

Not available.

Specific target organ toxicity (single exposure):

Not available.

Specific target organ toxicity (repeated exposure):

Not available.

Aspiration hazard:

Not available.

Chronic toxicity:

Not available.

Teratogenicity:

Not available.

Other information:

No other information.

SECTION 12: Ecological information

12.1 Toxicity:

Not available.

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Not available

12.4 Mobility in soil

Not available.

12.5 Results of PBT and vPvB assessment:

PBT: P: Not available. B: Not available. T: Not available.
vPvB;vP: Not available. vB: Not available.

12.6 Other adverse effects:

AOX: The product contains organically bound halogens and can contribute to the AOX value in waste water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Do not allow to enter drains or watercourses. Dispose of according to all federal, state and local applicable regulations.

Methods of disposal

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should always comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

Transport within user's premises:

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

International transport regulations:

This product is not regulated for carriage according to ADR/RID, IMDG, ICAO/IATA.

14.1 UN number: Not applicable.

14.2 Proper shipping name: Not applicable.

14.3 Transport hazard class(es) : Not applicable.

14.4 Packing group: Not applicable.

14.5 Environmental hazards: Not applicable.

14.6 Special precautions for user: Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:
Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:
EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV:

List of substances subject to authorization

Annex XIV:

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII:

Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles. Not applicable.

VOC content: Not available

Europe inventory: All components are listed or exempted.

National regulations Industrial use:

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

15.2 Chemical Safety Assessment

This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

No other information.