

SAFETY DATA SHEET

CHEMICAL SUBSTANCE / MIXTURE REGULATION (EC) No 1907/2006 AS AMENDED BY REGULATION (EU) No 453/2010

SECTION 1: IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY

1.1. Product identifiers

Product names	i-PLAST OR (liquid)
Chemical name	-
Identified uses	Self curing acrylic resin for orthodontic appliances

1.2. Details of the supplier of the safety data sheet

Company	UAB "Medicinos linija"
Address	Karaliaučiaus str. 29 LT-78374 Šiauliai, Lithuania
Telephone	+370 41 553 553
Fax	+370 41 553 551
E-mail address	dental@i-dental.lt

1.3. Emergency telephone number

Emergency telephone number (Available only during office hours)	+370 41 553 553
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SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Flam.Liq.2
Skin Irrit.2
Skin.Sens.1
STOT SE 3

2.1.1. Label elements

Pictograms



Signal word **Danger**

Hazard statements

H225: Highly flammable liquid and vapour
H315: Causes skin irritation
H317: May cause an allergic skin reaction
H335: May cause respiratory irritation

Precaution statements (prevention)

P210: Keep away from heat/sparks/open flames/hot surfaces. — No smoking
P264: Wash hands thoroughly after handling
P272: Contaminated work clothing should not be allowed out of the workplace.
P280: Wear protective gloves/protective clothing/eye protection/face protection
P261: Avoid breathing dust/fume/gas/mist/vapours/spray

Precaution statements (response)

P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P403+P235: Store in well-ventilated place. Keep cool

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Information on ingredients:

Name	CAS No	EC No	Hazard statement	Content, %
Methyl methacrylate	80-62-6	201-297-1	H225, H315, H317, H335	> 95
Ethyleneglycol dimethacrylate	97-90-5	202-617-2	H317, H335	< 5

SECTION 4: FIRST AID MEASURES

- 4.1. **General advice**
In doubt, consult a physician. Show this safety data sheet to the doctor in attendance.
- 4.2. **If swallowed**
Never give anything by mouth to an unconscious person. Take casualty to the hospital.
If the person is conscious wash out mouth with water; spit out the solution residues; give 200-300ml water to drink. **Do not induce vomiting**. Refer for medical attention.
- 4.3. **In case of eye contact**
Rinse thoroughly with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Refer for immediate medical attention.
- 4.4. **If inhaled**
Remove the casualty from the hazardous area and take him to the fresh air. If not breathing, give artificial respiration. Keep warm and at rest. Refer for immediate medical attention.
- 4.5. **In case of skin contact**
Take off contaminated clothing. Wash off with plenty of water. If symptoms (irritation or blistering) occur obtain medical attention. Wash contaminated clothing before reuse.
- 4.6. **Most important symptoms and effects, both acute and delayed**
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
- 4.7. **Indication of any immediate medical attention and special treatment needed**
No data available.

SECTION 5: FIRE FIGHTING MEASURES

- 5.1. **Extinguishing media**
Use powder, A.F.F.F., foam and CO₂.
- 5.2. **Unsuitable extinguishing media**
Direct jet of water.
- 5.3. **Advice for fire fighters**
A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.
- 5.4. **Special hazards arising from the substance or mixture**
No exposure hazards from the substance itself, combustion products, resulting gasses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1. **Personal precautions, protective equipment and emergency procedures**
Eliminate sources of ignition. Ensure suitable personal protection (including respiratory protection) during removal or spillage. Prevent entry into drains. Adsorb spillages onto sand, earth or any other suitable adsorbent material. DO NOT adsorb onto sawdust or other combustible materials. Transfer to a container for disposal or recovery. Spillages or uncontrolled discharges into watercourses must be alerted to appropriate regulatory body.
- 6.2. **Reference to other sections**
For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

- 7.1. **Precautions for safe handling**
Avoid contact with skin and eyes. Avoid inhalation of high concentrations of vapours. Use only in well ventilated areas. Material is highly flammable; it must be kept from sources of ignition. The vapour is heavier than air, beware of pots and confined spaces. Take precautionary measures against static discharges. Keep away from food, drinks and animal feed. Do not eat, drink or smoke when using this product.
- 7.2. **Conditions for safe storage, including any incompatibilities**
Keep in cool, well ventilated place, separate from oxidising agents. Keep away from sources of ignition – No smoking. Keep away from heat and direct sunlight. Keep the container closed to avoid evaporation of the product. Storage temperature: Preferably not exceeding 25°C.
- 7.3. **Specific end uses**
Dental use only.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION8.1. **Exposure limit values**

Occupational Exposure limits

SUBSTANCE	CAS No.	TWA 8 hr (mg/m ³)	TWA 8hr (ppm)
Methyl methacrylate	80-62-6	40	10

8.2. **Exposure controls**

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Storage properly (p.7).
Preventive medical check-ups should be arranged.

8.3. **Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.4. Personal protective equipment

8.4.1. Eyeface protection

Wear eye / face protection equipment. Safety glasses with side-shields, conforming to EN 166.

8.4.2. Hand protection

Wear suitable gloves. The most appropriate glove depends on consideration of a number of factors including the physical strength of the glove, the degree of manual dexterity required, the amount of permeation through the glove material and the duration of wear. There are a wide variety of elastomeric and laminate gloves available. Common elastomeric glove material include latex (natural rubber), neoprene (polyisoprene), nitrile rubber (ABS rubber), butyl rubber, polyvinyl alcohol (PVA), polyvinyl chloride (PVC) and fluoroelastomers. Laminate gloves are made from heat sealed sheets of PVA between layers of polyethylene. In permeation tests PVA/Polyethylene laminate and supported PVA gloves performed best (note that PVA can be rendered ineffective by contact with water if the laminate layer is breached). Butyl and nitrile rubber gloves offer short-term protection. Latex surgical gloves offer little protection. Gloves should be stored correctly and changed regularly, especially if excessive exposure has occurred.

8.4.3. Skin protection

Keep working clothes separately. Take off contaminated clothing immediately. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

8.4.4. Respiratory protection

Wear suitable respiratory equipment if exposed to level above the occupational exposure limit is likely. A suitable mask with filter type A may be appropriate.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. General information

Appearance	Clear, colourless/pink liquid
Odour	Ester like

9.2. Important health, safety and environment information

pH	Not applicable
Boiling point	100,3°C
Melting point	-48°C
Flash point	10°C
Flammable limits (lower) (% v/v)	2.1
Auto ignition temperature	430°C
Explosive properties	Not applicable
Oxidising properties	Not applicable
Vapour pressure	47 mbar at 20°C
Relative density	0.94 (water = 1)
Solubility	Miscible with most organic solvents
Water solubility	Slightly soluble, 1.5g/100ml at 20°C
Viscosity	0.6m Pa•s

SECTION 10: STABILITY AND REACTIVITY

10.1. Stability

Stable under normal temperature and pressure

10.2. Conditions to avoid

The product is stabilised with Hydroquinone (CAS No. 123-31-9). However polymerisation may occur when the expiry date and/or storage temperature is considerably exceeded.

10.3. Materials to avoid

When heated above the flash point, flammable vapours are emitted which can mix with air and can burn or be explosive. Vapours are heavier than air and may travel to the source of ignition and flash back. Heat can cause polymerisation with rapid release of energy which may rupture the container explosively.

Incompatible materials: Polymerization catalyst, such as Peroxy or Azo compounds, strong acids, alkalis and oxidizing agents.

10.4. Hazard decomposition products

When the product is used according to the instructions, there will be no hazardous decomposition products. The product does not decompose up to auto ignition temperature.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Possible dangerous to health effects

According to literature:

Methyl methacrylate is in essential non-toxic, when absorbed into the body by any route. However for some few individuals it is a powerful skin sensitizer. Apart from this skin allergy, human cases of ill health caused by the product are of a low probability.

Long-term inhalation tests on rats and hamsters with exposure to concentrations from 100 to 400 ppm, did not show any chronic toxic effect. However concentrations on excess of 100 ppm volume may be irritating for some people. Handling of the product requires adequate ventilation to prevent accumulation of vapour in work areas.

11.2. Inhalation

Irritating to respiratory system. High atmospheric concentrations may lead to irritation of the respiratory tract, dizziness, headache and anaesthetic effects.

11.3. **Skin corrosion/irritation**

May cause sensitisation by skin contact. Irritating to skin, Repeated and/or prolonged contact may cause dermatitis.

11.4. **Serious eye damage/eye irritation**

High vapour concentration will cause irritation.

11.5. **Respiratory or skin sensitization**

May cause allergic skin reactions.

11.6. **Ingestion**

Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.

11.7. **Germ cell mutagenicity**

No data available.

11.8. **Carcinogenicity**

IARC: No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

11.9. **Reproductive toxicity**

No data available.

11.10. **Specific target organ toxicity - single exposure**

The mixture may cause effects on the central nervous system.

11.11. **Specific target organ toxicity - repeated exposure**

No data available.

11.12. **Aspiration hazard**

No data available.

11.13. **Additional Information**

A repeated exposure to high levels produces adverse effect on the heart, lungs, liver and kidneys. Repeated exposure of animals by inhalation to levels at or above the occupational exposure level, produces adverse effect on the nasal epithelium (levels of 100 and 400 ppm). There is no reason to believe that Methyl methacrylate represents a carcinogenic or mutagenic hazard to man based upon evidence from well conducted animal studies, relevant mutagenic studies and adequate epidemiology studies in relevant cohorts. Recent studies in animals have shown that high exposures do not produce embryo or foetotoxic not teratogenic effects in the presence of maternal toxicity.

None of these effects are likely to occur in humans, provided exposure is maintained at or below occupational exposure limit.

Methyl methacrylate

Acute oral rat: LD50 = 7872 mg/kg

Acute skin rabbit: LD50 = 9400 mg/kg

Acute inhalation rat: LD50 = 7093 ppm / 4 hours

Ethyleneglycol dimethacrylate

Acute oral rat: LD50 = 3300 mg/kg

Skin irritation rabbit: Not irritating

Eye irritation rabbit: Not irritating

SECTION 12: ECOLOGICAL INFORMATION

12.1. **Ecotoxicity**

Liquid with high volatility. The product is soluble in water. The product as low potential for bioaccumulation.

12.2. **Mobility**

The product is predicted to have high mobility in soil.

12.3. **Persistence and degradability**

Readily biodegradable.

Chemical Oxygen Demand (COD): 88% (28 days)

Inherent biodegradation: Dissolved Organic Carbon Removal (DOC removal): > 95% (28 days)

12.4. **Toxicity**

Low toxicity to fish. LC50 (Fish) (typically) > 100 mg/l; LC50 (fathead minnow) (96 hours) (static) 130 mg/l

Harmful to aquatic invertebrates. EC50 (Daphnia magna) (48 hours) 69 mg/l

Low toxicity to algae. EC50 (selenastrum capricornutum) (96 hours) 170 mg/l; NOEC (zebra fish) (35 days) (flow through) 8,4 mg/l

12.5. **Effect on Effluent Treatment**

The product is substantially removed in biological treatment processes

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. **Waste treatment methods**

Disposal should be in accordance with local, state or national legislation. Incinerate under approved controlled conditions, using incinerators for the disposal of Methyl methacrylate. Decontaminate empty drums before recycling.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number: 1247

14.2. Proper shipping name: Methyl methacrylate monomer, stabilized

- 14.3. Hazard class: 3
- 14.4. Packing group: II
- 14.5. ADR classification code: 3
- 14.6. ADR HIN: 339
- 14.7. ADR transport category: 2
- 14.8. Tunnel restriction code: D1E
- 14.9. Labelling:



SECTION 15: REGULATORY INFORMATION

- 15.1. This safety datasheet complies with the requirements of Regulation (EC) No 1907/2006 as amended by Regulation (EU) No 453/2010.
- 15.2. Other Regulations: EINECS: Components of mixture are on the European Inventory of Existing Commercial Chemical Substances.
- 15.3. This safety data sheet information is not a professional risk assessment.
- 15.4. **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No data available.
- 15.5. **Chemical Safety Assessment**
No data available.
- 15.6. **Health, safety and environmental information**
No data available.

SECTION 16: OTHER INFORMATION

- 16.1. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.
- 16.2. UAB „Medicinos linija“ shall not be held liable for any damage resulting from handling or from contact with the above product.
- 16.3. The product should not be used for purposes other than specified in p.7.3 purposes.
- 16.4. User is responsible for the legal, regulatory compliance.
- 16.5. References to the changes that have been made in comparison with _ version: whole document.
- 16.6. Abbreviations and acronyms used in the safety data sheet:
 - 16.6.1. EC – European Commission
 - 16.6.2. GHS – Globally Harmonized System
 - 16.6.3. CLP – Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
 - 16.6.4. CAS No – Chemical Abstracts Service number
 - 16.6.5. EC No – EINECS and ELINCS Number (see also EINECS and ELINCS)
 - 16.6.6. PBT - Persistent, Bio accumulative and toxic substance
 - 16.6.7. VPvB – Very Persistent and Very Bio accumulative
 - 16.6.8. ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road
 - 16.6.9. UN – United Nations
 - 16.6.10. LC50 – Lethal Concentration to 50 % of a test population
 - 16.6.11. LD50 – Lethal Dose to 50% of a test population (Median Lethal Dose)
- 16.7. Key literature references and sources for data: <http://echa.europa.eu>.
- 16.8. List of relevant hazard statements, safety phrases and/or precautionary statements full text:
 - Signal word: Danger**
 - H225: Highly flammable liquid and vapour
 - H315: Causes skin irritation
 - H317: May cause an allergic skin reaction
 - H335: May cause respiratory irritation
 - P210: Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 - P264: Wash hands thoroughly after handling
 - P272: Contaminated work clothing should not be allowed out of the workplace.
 - P280: Wear protective gloves/protective clothing/eye protection/face protection
 - P261: Avoid breathing dust/fume/gas/mist/vapours/spray
 - P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 - P403+P235: Store in well-ventilated place. Keep cool
- 16.9. Training advice: How to properly handle chemical substances / mixtures employees must be trained in accordance with national requirements.