

Material Safety Data Sheet

August 1, 2011

Products: Optical Coating Material OF-139

Company: MY Polymers Ltd.

1. Chemical Product

Chemical identification: Proprietary acrylate/methacrylate resin
 Intended uses: Optical adhesive. Low refractive index applications.
 Molecular weight: 2000-6000

2. Composition: over 90% polymers based on a polyol with acrylic/methacrylic ester groups and silane functionality.

3. Hazard identification: Irritating to eyes, respiratory system and skin. Dangerous if swallowed due to a release of methanol

Classification: The product is not classified as dangerous material. Caution, substance not yet fully tested.

Adverse human health effects: The product, when properly handled, according to good working and hygienic practices, is not dangerous for the human health.

Environmental effects: The product, when properly used and disposed, is not dangerous for the environment.

Physical and Chemical hazards: Releases methanol upon exposure to moisture. By-products from thermal decomposition are toxic and corrosive vapours.

As the properties of this product has not been fully explored, care should be exercised when handling.

4. First Aid Procedures:

Symptomatology following exposure:

Eye contact: Redness, irritation
 Skin contact: Redness, irritation
 Ingestion: Abdominal pain, nausea, vomit
 Inhalation: Burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.

First Aid Measures:

Eye contact: Irrigate with pure water for at least 3 minutes, then seek medical attention.
 Skin contact: Wash with soap and water, seek medical advice in case of persistent irritation.
 Ingestion: Give some glasses of water to drink. Induce vomiting. Seek medical advice in case of persistent pain.
 Inhalation: Take to fresh air. Seek medical advice in case of persistent pain.

5. Fire Fighting Procedures:

Specific hazards: The product is not flammable and not explosive.

The heating of the product may cause decomposition with emission of toxic and corrosive vapours.

Specific methods: Wear specific protective equipment (see below)

Stay opposite the wind and at safety distance from the flames.

Remove the containers, when possible to do it in safe conditions.

Keep container cool by spraying with water if exposed to fire or other heat sources.

Extinguishing media: Foam, water spray, CO₂, dry chemicals

Protection of fire fighters: Self contained breathing apparatus.

Protective antiacid overall clothing.

6. Accidental Release Procedures:

Precautions with respect to individuals: Wear suitable protective clothings. Stop the release.

Precautions with respect to environment: Avoid discharge into the environment.

Stop leaks as soon as possible.

Clean up spillage immediately.
 Cleaning of spillage: Absorb with a mineral filler such as sand, vermiculite etc. collect and store in a suitable container.

7. **Storage and handling:**

Handling Avoid exposure to light and humidity

Precautions: No foreseeable hazard when the product is properly handled. Avoid heating above the decomposition temperature.

Technical measures: Provide working areas with adequate ventilation and with water wash facilities (eye bath and emergency showers)

Storage

Storage conditions: keep container closed. Keep away from heat sources. Keep away from combustible, explosive and incompatible materials (sect. 10). Avoid exposure to light and humidity.

Packaging: Glass or other moisture proof container.

Recommended materials: The product is both light and moisture sensitive and be kept in dark sealed containers.

Non suitable materials: Not known, however, non-lined metals may corrode and contaminate the product.

8. **Exposure control / individual protection:**

Exposure limits: Only threshold limits of by-products from thermal decomposition are available (ACGIH 2005):

HF:	TLV/Ceiling	2.6 mg/mc	3 ppm
COF2:	TLV/Ceiling	5.4 mg/mc	2 ppm
Methanol	8 hours, 98/24/EC	260 mg/mc	200 ppm

Engineering measures: Provide working areas with adequate ventilation/aspiration systems.

Personal Protective Equipment

Respiratory protection Use aspirator when performing operations involving potential exposure to vapour of the product. Respirator with filler for organic vapour.

Eye Protection Safety goggles

Hand Protection rubber gloves

Skin and body protection worksuit or rubber apron

Hygiene measures Do not drink, eat and smoke during handling.

9. **Physical and Chemical Properties:**

Appearance: viscous liquid.
 Color: pale yellow, transparent
 Odor: weak
 Acidity: Not applicable
 Refractive index: 1.37-1.38
 Viscosity: 2000-5000 cps
 Flash point: non flammable
 Boiling Point: Not applicable
 Decomposition temperature: >150°C
 Spontaneous ignition: No
 Explosive Properties: None
 Vapor Pressure: < 1 mm Hg @ 20°C
 Density: 1.5
 Solubility in water: insoluble.
 Solubility in organic solvents: soluble in esters and ketones
 Volatiles:< 1%

10. **Stability and Reactivity**

Stability: The product is stable in normal conditions of use and storage. May gel upon exposure to light, heat or moisture.

Conditions to avoid: Temperature above 150°C

Exposure to light
 Contact with heat sources
 Exposure to moisture

Materials to avoid: Avoid thermal free radical producing initiators (peroxides etc.)

Oxidising or reducing agents
 Fine powdered magnesium, aluminium and their alloys above 100°C.
 Avoid inerting. (do not store under nitrogen.).

Hazardous decomposition products: carbon monoxide, nitrogen oxides, hydrogen cyanide, hydrogen fluoride, carbonyl fluoride.

11. Toxicological Information

Penetration routes: Contact and ingestion

Adverse effects for human health: Delayed and/or immediate effects after short and/or prolonged exposure:

Acute toxicity: No available data
 Local effects/irritating power: No available data
 Sensitization: No available data
 Chronic toxicity: No available data
 Carcinogenicity: No available data
 Mutagenicity: No available data
 Reproduction toxicity: No available data

12. Ecological information

This product is a 100% active material, no evaporation or air pollution during handling under normal conditions can occur. Some methanol may be released slowly after exposure of the material to moisture. The level is at the range of 7 gram methanol per Kg of material.

No other data available concerning environmental effects, ecostability or ecotoxicity.

Use the product according to good working practice, avoiding polluting the environment.

13. Disposal Consideration

Waste treatment: Send waste material to thermal destruction using high temperature incinerators designed to burn fluoride compounds.

Packaging treatment: Send to authorized land fills according to local laws and regulations.

14. Transport Regulations

Specific hazards: product not dangerous for transportation (not classified)

Packaging information: Product is normally shipped in either glass or polyethylene bottles.

International transport classification:

U. N. Number not assigned

Packaging group: not assigned

15. Regulatory information

EC regulations (directive 67-548 and following amendments)

Classification

Classification type: Not required

Hazard class: None

Hazard Symbol: None

Risk Phrases (R): 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases (S): 26-36 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

16. Other Information

This document completes the technical sheet of use but it does not replace it. The information contained in this document is based on our knowledge of the product at this time.

The producer can offer no guarantee as to the accuracy or exhaustiveness of the above information. All chemicals may present unforeseen risks and should be used with cautions and by trained personnel.

We can not guarantee that the risks referred to above are the only risks present. The final choice of the application of a product is thus the sole responsibility of the user.