SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Acrylic Hardener</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Description</td>
<td>This product contains iso-Butyl methacrylate and low levels of stabiliser.</td>
</tr>
<tr>
<td>Alternative names</td>
<td>Stabilised iso-Butyl methacrylate monomer; 2-propenoic acid, 2-Methyl-, 2-methyl propyl ester.</td>
</tr>
<tr>
<td>CAS No.</td>
<td>97-86-9</td>
</tr>
<tr>
<td>Identified use(s)</td>
<td>Comonomer(s) for production of polymers.</td>
</tr>
<tr>
<td>Uses advised against</td>
<td>Mixtures containing unreacted liquid monomer intended to come into contact with skin or nails.</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Metlab Corporation</td>
</tr>
<tr>
<td>Date</td>
<td>Jan 1 2018</td>
</tr>
<tr>
<td>4011 Hyde Park Blvd</td>
<td>Niagara Falls, NY 14305</td>
</tr>
<tr>
<td>Emergency Phone No.</td>
<td>1-888-255-3924 (Emergency)</td>
</tr>
</tbody>
</table>

2. HAZARDS IDENTIFICATION

| Hazard classification | Flammable liquid Category 3. |
| Skin corrosion / irritation Category 2. |
| Skin sensitization Category 1. |
| Serious eye damage / eye irritation Category 2A. |
| STOT - single exposure Category 3 |
| Hazardous to the aquatic environment - Acute hazard Category 1. |

Label elements

Symbol

Signal word | Warning |
| Hazard statement(s) | H226: 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. |
| Precautionary statement(s) | P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical identity of the substance iso-Butyl methacrylate .
Common name(s), synonym(s) of the substance Stabilised iso-Butyl methacrylate monomer; 2-propenoic acid, 2-Methyl-, 2-methyl propyl ester.
CAS No. 97-86-9
Impurities and stabilizing additives Standard grades contain inhibitors from among the following: 1000 ppm Maximum p-Methoxyphenol (CAS No. 150-76-5)

Substances in the product which may present a health or environmental hazard, or which have been assigned occupational exposure limits, are detailed below.

<table>
<thead>
<tr>
<th>Substance identity</th>
<th>%W/W</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>iso-Butyl methacrylate</td>
<td>&gt;99</td>
<td>97-86-9</td>
</tr>
<tr>
<td>Ethyl Alcohol</td>
<td>&lt;1</td>
<td>64-17-5</td>
</tr>
<tr>
<td>N,N-Dimethyl-P-Toluidine</td>
<td>&lt;.5</td>
<td>99-97-8</td>
</tr>
<tr>
<td>Methyl Isobutyl Ketone</td>
<td>&lt;.5</td>
<td>108-10-1</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES
Description of first aid measures

Inhalation  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE or doctor if you feel unwell.

Skin Contact  
IF ON SKIN (or hair): Wash with plenty of water. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing and wash before re-use.

Eye Contact  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion  
IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Obtain immediate medical attention.

Most important symptoms and effects, both acute and delayed  
Causes serious eye irritation. Causes skin irritation. May cause respiratory irritation. May cause an allergic skin reaction.

Indication of any immediate medical attention and special treatment needed  
None necessary.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media  
In case of fire, use water spray, foam, dry powder or CO₂ for extinction. Keep containers cool by spraying with water if exposed to fire.

Unsuitable Extinguishing Media  
Do not use water jet.

Special hazards arising from the substance or mixture  
Explosively if hot.

Special protective equipment and precautions  
A self contained breathing apparatus and suitable protective clothing should be worn in fire for fire fighters conditions.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures  
Eliminate sources of ignition. Wear protective gloves and eye/face protection. Avoid breathing vapors. See Section: 8

Environmental precautions  
Avoid release to the environment. Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

Methods and materials for containment and Collect spillage. Do not adsorb onto sawdust or other combustible materials. Transfer to a cleaning up container for disposal or recovery. Use only non-sparking tools.

Other advice  
See Section: 8, 13

7. HANDLING AND STORAGE

HANDLING  
Do not eat, drink or smoke at the work place. Wash thoroughly after handling. Avoid breathing vapors. Use only outdoors or in a well-ventilated area. The vapor is heavier than air; beware of pits and confined spaces.

STORAGE  
Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Keep away from heat, sparks, open flame, hot surfaces - No smoking. Protect from sunlight. IMPORTANT: Methacrylates stored in bulk must be kept in contact with air (oxygen). Monomer vapors are uninhibited and may form polymers in vent or flame arresters, resulting in blockage of vents.

Check inhibitor levels every 6 months and return to original level.

Storage temperature (°C):  
Store at temperatures not exceeding 77°F (25°C).

Incompatible materials:  
Polymerization catalysts, such as peroxy or azo compounds, strong acids, alkalis and oxidizing agents.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS No.</th>
<th>OSHA PEL TWA</th>
<th>ACGIH TWA</th>
<th>ACGIH STEL</th>
<th>Company Std. TWA</th>
<th>Company Std. STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>iso-Butyl methacrylate</td>
<td>97-86-9</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>50 ppm</td>
<td>100 ppm</td>
</tr>
</tbody>
</table>

Appropriate engineering controls Do not eat, drink or smoke at the work place. Provide adequate ventilation, including appropriate local extraction, to ensure that the occupational exposure limit is not exceeded. Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required. Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

- Wear eye/face protection. Safety spectacles/goggles/full face shield.

Skin protection

- Wear protective gloves.
  - For splash protection: Butyl; EN 374.
  - For immersion protection: Butyl; 0.7 mm or greater; EN 374.

Suitability of gloves should be confirmed with glove manufacturer. Change gloves, if contamination occurs or duration of activity exceeds breakthrough time. Breakthrough time of the glove material: refer to the information provided by the gloves’ producer.

Respiratory protection

- Wear respiratory protection.
- Wear suitable respiratory protective equipment if exposure to levels above the occupational exposure limit is likely. A suitable mask with filter type A may be appropriate. In the event of formation of particularly high levels of vapor a self contained breathing apparatus may be appropriate.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Almost colorless to pale yellow.</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odor Threshold (ppm)</td>
<td>0.016 - 0.069</td>
</tr>
<tr>
<td>pH (Value)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Melting Point (°C)</td>
<td>-35</td>
</tr>
<tr>
<td>Boiling Point (°C)</td>
<td>155</td>
</tr>
<tr>
<td>Flash Point (°C)</td>
<td>42.5 - 45.5 [Closed cup]</td>
</tr>
<tr>
<td>Relative Evaporation Rate (Ether = 1)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammable Limits (Lower) (%v/v)</td>
<td>2</td>
</tr>
<tr>
<td>Flammable Limits (Upper) (%v/v)</td>
<td>8</td>
</tr>
<tr>
<td>Vapour pressure (Pascal)</td>
<td>210 at 68°F (20°C)</td>
</tr>
<tr>
<td>Vapor Density (Air=1)</td>
<td>4.91</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.896 at 60°F (15.5°C)</td>
</tr>
<tr>
<td>Solubility (Water)</td>
<td>0.47 g/l at 68°F (20°C)</td>
</tr>
<tr>
<td>Solubility (Other)</td>
<td>Miscible with most organic solvents.</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Reactivity
Will exothermically polymerise in the presence of initiators.

Chemical stability
Stable in the presence of inhibitor.

Hazardous Reactions
Susceptible to polymerisation initiated by prolonged storage or the presence of catalyst.

Conditions to avoid
Heat and direct sunlight.

Materials to avoid
Polymerization catalysts, such as peroxo or azo compounds, strong acids, alkalis and oxidizing agents.

Hazardous decomposition product(s)
Does not decompose up to auto-ignition temperature.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

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

Ingestion toxicity data
LD50 (oral) > 9590 mg/kg

Ingestion STOT-single exposure
Not applicable.

Inhalation
May cause respiratory irritation. May cause drowsiness and dizziness.

Inhalation toxicity data
LC50 (vapor) 5026 ppm (29.74 mg/l) (290 min)

Inhalation STOT-single exposure
Not applicable.

Respiratory sensitization data
Not a respiratory sensitizer.

Aspiration hazard data
Not an aspiration hazard.

Skin Contact
May cause an allergic skin reaction. Causes skin irritation. Repeated and/or prolonged contact may cause dermatitis.

Skin contact toxicity data
LD50 (dermal) > 17760 mg/kg

Skin contact STOT-single exposure
Not applicable.

Eye Contact
Causes serious eye irritation.

Eye contact toxicity data
Slight irritant to rabbit eyes.

Eye STOT-single exposure
Not applicable.

Germ cell mutagenicity data
Salmonella typhimurium (TA1535, 1537, 98, 100) negative (OECD 471)

Repeated exposure toxicity

Chronic exposure
Exposure to high concentrations may produce adverse effects on the nasal epithelium. Repeated exposure produces adverse effects on the spleen.

STOT - repeated exposure data
NOAEL (inhalation) (rat) (28 day) 310 ppm (OECD 412)

LOAEL (inhalation) (rat) (28 day) 952 ppm (OECD 412)

NOAEC (oral) (rat) 30 mg/kg/day
Reproductive toxicity data
Some evidence of developmental toxicity at 1000 mg/kg/day in screening study (OECD 422). Decreased number of neonates, decreases in parturition and live birth indices and total number of offspring. NOEL for developmental toxicity is considered 300 mg/kg/day.

Carcinogenicity data
It is unlikely to present a carcinogenic hazard to man.

Other information
Not applicable.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life.
LC50 (rainbow trout) (96 hour) (flow through) 20 mg/l
EC50 (Daphnia magna) (48 hour) > 29 mg/l
EC50 (Selenastrum capricornutum) (72 hour) 16 mg/l
EC50 (Selenastrum capricornutum) (72 hour) 44 mg/l
The product is substantially removed in biological treatment processes.

Persistence and degradability
Readily biodegradable.
74% (28 days)

Bioaccumulative potential
The product has moderate potential for bioaccumulation.

Mobility
The product is predicted to have moderate mobility in soil.

Other adverse effects
None known.

13. DISPOSAL CONSIDERATIONS

Avoid release to the environment. Decontaminate empty drums before recycling.

Disposal methods
Dispose of contents/container to hazardous waste in accordance with local, state or national legislation. Incinerate under approved controlled conditions, using incinerators suitable for the disposal of flammable organics.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)
US Label Information : Flammable liquid
Domestic containers of less than 450 L. capacity are not regulated by DOT. International shipments must be labelled as Flammable and comply with UN2283 designation.

UN No.
1993

Proper Shipping Name
Flammable Liquid, N.O.S. Mixture.(Isobutyl Methacrylate, stabilized, Ethyl Alcohol)

Class
3

Packing group
III

Environmental hazards
Not classified as a Marine Pollutant.

Special precautions for user
No special requirements

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

15. REGULATORY INFORMATION

US Federal Regulations
SARA 302 - Extremely Hazardous Substances
Not listed

SARA 311/312 - Hazard Categories
Acute
Yes
Chronic
No.

Fire
Yes
Reactivity  Yes
Pressure  No.

SARA 313 - Toxic Chemicals  Not listed

US State Regulations
California  Proposition 65 (California) Not listed

Canadian Regulations
WHMIS Classification  Class B, Division 3, Combustible Liquid  Class D, Division 2, Subdivision B, Toxic Material  Class F, Dangerously Reactive Material

NPCA-HMIS Rating
Health  2
Flammability  2
Reactivity  2

16. OTHER INFORMATION
The following sections contain revisions or new statements: 9
Date of preparation: 17 -March- 2015

Inventory Status
European Union  All chemicals in this product comply with REACH regulations.
United States (TSCA)  Listed in TSCA
Canada (DSL/NDSL)  Listed in DSL
Japan (ENCS)  Listed in ENCS
Philippines (PICCS)  Listed in PICCS
Australia (AICS)  Listed in AICS
South Korea (KECI)  Listed in KECI
China (IECSC)  Listed in IECSC

Compliance with other Regulatory Chemical Inventories cannot be assumed, please contact supplier for further information.
Import to the EU is regulated under REACH.

Methacrylate monomers are used safely in a wide variety of applications including some areas of personal hygiene. We are aware of some reports suggesting that use of methacrylate monomers in fingernail extension applications may result in loosening or shedding of the nails of the user as well as respiratory or other effects in those exposed to high levels of the vapors. Metlab Corporation has performed no technical or clinical testing and has no data to support the use of methacrylate monomers in this application. Under no circumstances should methacrylate monomers be used in this or similar applications.

MEDICAL USE: CAUTION: DO NOT USE IN MEDICAL APPLICATIONS INVOLVING IMPLANTATION IN THE HUMAN BODY.
Metlab Corporation has performed no clinical testing on the use of this product in any medical application. Metlab Corporation has no data to support the use of this product in any medical application. This product was not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. Metlab Corporation has neither sought, nor received, approval from any regulatory agency for the use of this product in implantation in the human body or in contact with internal body fluids or tissues.
For further information on the properties and uses, or storage and handling, of iso-Butyl Methacrylate refer to Product data sheet; i-Butyl Methacrylate (TS/C/2263/11), or the Methacrylate Esters Safe Handling Manual.

It is the responsibility of the end-product manufacturer to identify all market and use-specific regulations and to ensure compliance with these regulations.

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