Section1- Product and Company Identification

Product Name: Isobutyl methacrylate

Synonyms: Isobutyl alpha-methacrylate; 2-Methylpropyl methacrylate; 2-Propenoic acid, 2-methyl-, 2-methylpropyl ester.

Company Name: Shanghai Hechuang Chemical Co., Ltd

Address: No.688, Qiushi Road, Jinshan District, Shanghai, China

Zip Code: 201512

Email: hcchem001@sina.com

Fax: 86-21-37285163

Emergency Tel: 86-21-37285183

Product Code: HCM104

Effective Date: August 22, 2008

State Emergency Tel: 86112

Section 2 - Composition/Information on Ingredients

Simple ☐ √ **Mixture** ☐

Chemical Name	Proportion	CAS No.
IBMA	≥99.5%	97-86-9

Molecular Weight: 142.1

Chemical Formula: $C_8H_{14}O_2$

Section 3 - Hazards Identification

Appearance: clear, colorless liquid. Flash Point: 46 deg C.

Warning! Flammable liquid and vapor. Causes eye, skin, and respiratory tract irritation. May cause allergic skin reaction. Reactive monomer. Store under refrigeration to preserve product quality. Product polymerizes gradually at room temperature; at elevated temperatures, polymerization may occur rapidly enough to generate heat and pressure.

Target Organs: Central nervous system, respiratory system, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation.

Skin: Cause skin irritation. May cause skin sensitization, an allergic reaction, which becomes

evident upon re-exposure to this material.

Ingestion: Ingestion of large amounts may cause CNS depression. Causes gastrointestinal tract irritation.

Inhalation: Causes respiratory tract irritation. Inhalation at high concentrations may cause CNS depression and asphyxiation.

Chronic: No information found.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Flammable liquid and vapor. Fire or excessive heat may result in violent rupture of the container due to bulk polymerization. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. This liquid floats on water and may travel to a source of ignition and spread fire.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.

Flash Point: 46 deg C (114.80 deg F)

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 2; Instability: 2

Section 6- Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Scoop up with a non-sparking tool, and then place into a suitable container for disposal. Remove all sources of ignition. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7- Handling and Storage Measures

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep away from heat, sparks and flame. Use with adequate ventilation. Store protected from light. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Refrigerator/flammables. Store protected from moisture. Store protected from light. Keep away from oxidizing agents.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Isobutyl methacrylate	none listed	none listed	none listed

OSHA Vacated PELs: Isobutyl methacrylate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: Fruity odor

pH: Not available

Vapor Pressure: 3.5 mmHg @ 20 deg C

Vapor Density: 4.9

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: 155 deg C

Freezing/Melting Point: Not available

Decomposition Temperature: Not available.

Solubility: Insoluble

Specific Gravity/Density: 0.889

Molecular Formula: $C_8H_{14}O_2$

Molecular Weight: 142.10

Section 10 - Stability and Reactivity

Chemical Stability: May polymerize on exposure to light. Stable only if stored and handled under recommended conditions. The stability of the product depends upon the availability of both dissolved oxygen and MEHQ inhibitor (CAS=150-76-5). The presence of oxygen is necessary for the MEHQ to function effectively

Conditions to Avoid: High temperatures, mechanical shock, incompatible materials, light, ignition sources, moisture, oxidizers, loss of inhibitor.

Incompatibilities with Other Materials: Strong acids, strong bases, strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, irritating and toxic fumes and gases.

Hazardous Polymerization: May occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 97-86-9: OZ4900000

LD50/LC50:

CAS# 97-86-9:

Oral, mouse: LD50 = 11990 mg/kg;

Carcinogenicity:

CAS# 97-86-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found.

Teratogenicity: Teratogenic effects have occurred in experimental animals.

Reproductive Effects: Adverse reproductive effects have occurred in experimental animals.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.

Environmental: Exhibits low mobility in soil, it may slowly leach to groundwater. Slight tendency to adsorb to soil. May volatilize from near surface soil and other surfaces. May biodegrade in soil and water. Not expected to adsorb to sediment or suspended particulate or to bioconcentrate in aquatic organisms. Hydrolysis may be a significant process. Will significantly volatilize from water. Expected to exist almost entirely in the vapor phase in the atmosphere. Will be susceptible to photo oxidation.

Physical: Hydrolysis half-lives: 4 yr (pH 7), 144 d (pH 8), 14.4 d (pH 9). Volatilization half-lives: model river (1m deep) = 5.62 days; model pond = 4.2 days. Atmospheric half-life: 5.74 hr.

Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	ISOBUTYL METHACRYLATE, STABILIZED	ISOBUTYL METHACRYLATE, INHIBITED
Hazard Class:	3	3
UN Number:	UN2283	UN2283
Packing Group:	III	III

Transport Precautions: Keep container closed and packaging integrity. Keep away from acids, bases and strong oxidizing agents. Keep away from all sources of ignition.

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 97-86-9 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA. **CE**

RCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 97-86-9: immediate, fire, reactive.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA. **STATE**

CAS# 97-86-9 can be found on the following state right to know lists: New Jersey. **California Prop 65**

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XI N

Risk Phrases:

R 10 Flammable.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 43 May cause sensitization by skin contact.

R 50 Very toxic to aquatic organisms.

Safety Phrases:

S 24 Avoid contact with skin.

S 37 Wear suitable gloves.

S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 97-86-9: 1

Canada - DSL/NDSL

CAS# 97-86-9 is listed on Canada's DSL List.

Canada – WHMIS

This product has a WHMIS classification of B3, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 22 / 08 / 2008

Revision Date: 08 / 05 / 2010

Creation Department: Technical department of Shanghai Hechuang Chemical Co., Lt.

Data Audit Unit: Shanghai Hechuang Chemical Co., Ltd.

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