CI (Shanghai) DEVELOPMENT CO., LTD.

1-Methoxy-2-butanol

Revision number: 1

Revision date: 12/01/2010

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SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

Product name: **Product code:** Company: Address: **Responsible Department:** Telephone: Fax: e-mail: **Revision number:**

1-Methoxy-2-butanol M0747 TCI (Shanghai) DEVELOPMENT CO., LTD. No.96 Pu Gong Road, Shanghai Chemical Industry Park, Shanghai 201507 China Sales Department +86-(0)21-67121386 +86-(0)21-67121385 sales@tcishanghai.com.cn 1

2. HAZARDS IDENTIFICATION **Classification of the GHS** PHYSICAL HAZARDS Flammable liquids **HEALTH HAZARDS ENVIRONMENTAL HAZARDS**

GHS label elements Pictograms or hazard symbols



Signal word Warning Hazard statement Flammable liquid and vapour **Precautionary statements** Keep away from heat/sparks/open flames/hot surfaces. - No smoking. [Prevention] Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against ignition by the static discharge and the spark. Wear protective gloves/eye protection/face protection. [Response] IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Store in a well-ventilated place. Keep cool. [Storage] [Disposal] Dispose of contents/container through a waste management company authorized by the local government

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Substance/mixture: | Substance |
|--------------------|-----------------------------------|
| Component(s): | 1-Methoxy-2-butanol |
| Percent: | >93.0%(GC) |
| CAS Number: | 53778-73-7 |
| Synonyms: | 1,2-Butanediol 1-Monomethyl Ether |
| Chemical Formula: | $C_5H_{12}O_2$ |

4. FIRST AID MEASURES

Inhalation:

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

Category 3 Not classified Not classified

| 4. FIRST AID MEASURES Skin contact: | Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. |
|--|--|
| Eye contact: | 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: | Get medical advice/attention if you feel unwell. Rinse mouth. |
| Protection of first-aiders: | A rescuer should wear personal protective equipment, such as rubber gloves and air- tight goggles. |

5. FIRE-FIGHTING MEASURES

| | |
|--|---|
| Suitable extinguishing media: | Dry chemical, foam, carbon dioxide. |
| Extinguishing media not to be used: | Water (It may scatter and spread fire.) |
| Specific methods: | Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Keep containers cool by spraying with water. Eliminate all ignition sources if safe to do so. |
| Special protective equipment for firefighters: | When extinguishing fire, be sure to wear personal protective equipment. |

6. ACCIDENTAL RELEASE MEASURES

| 6. ACCIDENTAL RELEASE MEASURES | |
|--------------------------------|---|
| Personal precautions, | Use personal protective equipment. Keep people away from and upwind of spill/leak. |
| protective equipment and | Ensure adequate ventilation. Entry to non-involved personnel should be controlled |
| emergency procedures: | around the leakage area by roping off, etc. |
| Environmental precautions | : Prevent product from entering drains. |
| Methods and materials for | Absorb spilled material in dry sand or inert absorbent before recovering it into an |
| containment and cleaning | airtight container. In case of large amount of spillage, contain a spill by bunding. |
| up: | Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations. |
| Prevention of secondary | Remove all sources of ignition. Fire-extinguishing devices should be prepared in |
| hazards: | case of a fire. Use spark-proof tools and explosion-proof equipment. |
| | |
| 7. HANDLING AND STORAGE | |
| Handling | |
| Technical measures: | Handling is performed in a well ventilated place. Wear suitable protective equipment. |
| | Prevent generation of vapor or mist. Keep away from heat/sparks/open flame/hot surfacesNo smoking. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a ventilation, local exhaust if vapor or aerosol |
| Advice on safe handling: | Prevent generation of vapor or mist. Keep away from heat/sparks/open flame/hot surfacesNo smoking. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a ventilation, local exhaust if vapor or aerosol will be generated. |
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| Storage | Prevent generation of vapor or mist. Keep away from heat/sparks/open flame/hot surfacesNo smoking. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a ventilation, local exhaust if vapor or aerosol will be generated. Avoid contact with skin, eyes and clothing. |
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| Storage | Prevent generation of vapor or mist. Keep away from heat/sparks/open flame/hot surfacesNo smoking. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a ventilation, local exhaust if vapor or aerosol will be generated. Avoid contact with skin, eyes and clothing. |

Packaging material:

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Install a closed system or local exhaust. Also install safety shower and eye bath. Engineering controls: Personal protective equipment

| Respiratory protection: | Vapor respirator. Follow local and national regulations. |
|---------------------------|---|
| Hand protection: | Protective gloves. |
| Eye protection: | Safety glasses. A face-shield, if the situation requires. |
| Skin and body protection: | Protective clothing. Protective boots, if the situation requires. |

9. PHYSICAL AND CHEMICAL PROPERTIES

| J. I III OIOAL AND OILLINOAL | |
|-----------------------------------|--|
| Physical state (20°C): | Liquid |
| Form: | clear |
| Color: | Colorless - Very pale yellow |
| Odor: | No data available |
| pH: | No data available |
| Melting point/freezing point | :No data available |
| Boiling Point/Range: | 135 °C |
| Flash Point: | 39°C |
| Explosive limits | |
| Lower: | No data available |
| Upper: | No data available |
| Density: | 0.91 |
| Solubility: | No data available |
| | |
| 10. STABILITY AND REACTIVI | ТҮ |
| Stability: | Stable under proper conditions. |
| Reactivity: | No special reactivity has been reported. |
| Incompartible materials: | oxidizing agents |
| Hazardous Decomposition | |
| Products: | |
| | |
| 11. TOXICOLOGICAL INFORM | ATION |
| Acute Toxicity: | No data available |
| Skin corrosion/irritation: | No data available |
| Serious eye | No data available |
| damage/irritation: | |
| Germ cell mutagenicity: | No data available |
| Carcinogenicity: | |
| IARC = | No data available |
| NTP = | No data available |
| Reproductive toxicity: | No data available |
| RTECS Number: | EL4540000 |
| | |
| 12. ECOLOGICAL INFORMATION | ON |
| Ecotoxicity: | |
| Fish: | No data available |
| | |

| Fish: | No data available |
|----------------------------------|-------------------|
| Crustacea: | No data available |
| Algae: | No data available |
| Persistence / degradability: | No data available |
| Bioaccumulative | No data available |
| potential(BCF): | |
| Mobillity in soil | |
| log Pow: | No data available |
| Soil adsorption (Koc): | No data available |
| Henry's Law | No data available |
| constant(PaM ³ /mol): | |
| | |

13. DISPOSAL CONSIDERATIONS

Recycle to process, if possible. Consult your local regional authorities. You may be able to burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

14. TRANSPORT INFORMATION

| Hazards Class: | 3: Flammable liquid. |
|-----------------------|--------------------------|
| UN-No: | 1993 |
| Proper shipping name: | Flammable liquid, n.o.s. |

14. TRANSPORT INFORMATION

Packing group:

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15. REGULATORY INFORMATION

Safe management ordinance of dangerous chemical product (State Council announces on January 26, 2002): Safe use and production, the storage of a dangerous chemical, transport, loading and unloading were prescribed.

16. OTHER INFORMATION

| The reference comp | The reference company name of written contents | |
|---|--|--|
| Company: | TCI (Shanghai) DEVELOPMENT CO., LTD. | |
| Address: | No.96 Pu Gong Road, Shanghai Chemical Industry Park, Shanghai 201507 China | |
| Department: | R&D (Information Management) Department | |
| Telephone: | +86-(0)21-67121388*461 | |
| Fax: | +86-(0)21-67121385 | |
| This MSDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data | | |

contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority.products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.