

## Chemical Safety Data Sheet

### Section 1 IDENTIFICATION

**GHS Product identifier:** METHYL ETHYL KETONE.

**Other means of identification:** 2-butanone

**Recommended use of the chemical and restrictions on use:** /

**Supplier's details:** / ZIBO QIXIANG TENGDA CHEMICAL CO.,LTD.

**Emergency phone number:** /

### Section 2 HAZARDS IDENTIFICATION

**Classification of the substance or mixture:**

Flammable Liquid Category 2, Eye Irritation Category 2A, Specific target organ toxicity - single exposure Category 3 (narcotic effects)

**GHS Label elements, including precautionary statements:**



**Signal word:** Danger

**Hazard statement(s):** Highly flammable liquid and vapour. Causes serious eye irritation. May cause drowsiness or dizziness.

**Precautionary statement(s):**

**Prevention:**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/.../equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapours/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection

**Response:**

In case of fire: Use carbon dioxide, foam or dry powder to extinguish. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor/.../if you feel unwell. 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.

**Storage:**

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up

**Disposal:**

Dispose of contents/container in accordance with local/regional/national/international regulations

**Other hazards which do not result in classification:** /

### Section 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration%
METHYL ETHYL KETONE	78-93-3	99.95%

## Section 4 FIRST AID MEASURES

**Description of necessary first aid measures**

**If inhaled:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact:** Wash off with soap and plenty of water. Consult a physician

**In case of eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If ingestion:** Rinse mouth with water. Consult a physician

**Most important symptoms/effects, acute and delayed:** /

**Indication of immediate medical attention and special treatment needed, if necessary:** /

## Section 5 FIREFIGHTING MEASURES

**Suitable extinguishing media:** Use water spray, chemical powder, foam or carbon dioxide

**Special hazards arising from the chemical:** Liquid and vapour are highly flammable. Severe fire hazard when exposed to heat, flame and/or oxidisers. Vapour may travel a considerable distance to source of ignition. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO)

**Special protective actions for fire-fighters:** Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. If safe, switch off electrical equipment until vapour fire hazard removed. Use water delivered as a fine spray to control fire and cool adjacent area. Avoid spraying water onto liquid pools. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire

## Section 6 ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment

**Environmental precautions:** Increase ventilation. Stop leak if safe to do so

**Methods and materials for containment and cleaning up:** Minor Spills: Contain and absorb small quantities with vermiculite or other absorbent material. Wipe up. Major Spills: Stop leak if safe to do so. Water spray or fog may be used to disperse / absorb vapour. Contain spill with sand, earth or vermiculite. Use only spark-free shovels and explosion proof equipment. Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite. Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains.

## Section 7 HANDLING AND STORAGE

**Precautions for safe handling:** Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. DO NOT allow material to contact humans, exposed food or food utensils. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers.

**Conditions for safe storage, including any incompatibilities:** Store in original containers. Keep

containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.

#### Section 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

##### Control parameters:

##### OCCUPATIONAL EXPOSURE LIMITS (OEL)

Source	Ingredient	Material name	TWA	STEL
China Occupational Exposure Limits for Hazardous Agents in the Workplace	methyl ethyl ketone	Methyl ethyl ketone	300 mg/m <sup>3</sup>	600 mg/m <sup>3</sup>

**Appropriate engineering controls:** For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant.

##### Individual protection measures

**Eye/face protection:** Safety glasses with side shields. Chemical goggles.

**Skin protection:** Wear chemical protective gloves, eg. PVC. Wear safety footwear or safety gumboots, eg. Rubber.

**Respiratory protection:** Type A Filter of sufficient capacity.

**Thermal hazards:** /

#### Section 9 PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance (physical state, colour etc)</b>	Colorless transparent liquid.
<b>Odour</b>	/
<b>Odour Threshold</b>	/
<b>pH</b>	/
<b>Melting point/freezing point</b>	-85.9°C
<b>Initial boiling point and boiling range</b>	78-80°C
<b>Flash point</b>	≤-9.0°C。
<b>Evaporation rate</b>	/
<b>Flammability (solid, gas)</b>	HIGHLY FLAMMABLE.
<b>Upper/lower flammability or explosive limits</b>	1.8-12.0%
<b>Vapour pressure (kPa)</b>	9.5 @ 20 C
<b>Vapour density</b>	2.4 @ 20 C
<b>Relative density</b>	0.81 @ 20 C
<b>Solubility(ies)</b>	Partly miscible
<b>Partition coefficient: n-octanol/water</b>	/
<b>Auto-ignition temperature</b>	474°C
<b>Decomposition temperature</b>	/
<b>Viscosity (cSt)</b>	/

#### Section 10 STABILITY AND REACTIVITY

**Reactivity:** /

**Chemical stability:** This material is stable in normal temperature.

**Possibility of hazardous reactions:**

Ketones in this group are reactive with many acids and bases liberating heat and flammable gases (e.g.,  $H_2$ ).

**Conditions to avoid:** Heat, flames and sparks.

**Incompatible materials:** Avoid strong bases. Avoid reaction with oxidising agents

**Hazardous decomposition products:** Carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>).

#### Section 11 TOXICOLOGICAL INFORMATION

**Information on the likely routes of exposure:** Inhaled, swallowed, skin, eyes.

**Symptoms related to the physical, chemical and toxicological characteristics:** /

**Acute health effects:**

Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo. Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. The material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.

**Chronic health effects:** Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.

**Numerical measures of toxicity (such as acute toxicity estimates):**

Dermal (rabbit) LD50: ~6400-8000 mg/kg

Inhalation (rat) LC50: 47 mg/l/8H

Oral (rat) LD50: 2054 mg/kg

#### Section 12 ECOLOGICAL INFORMATION

**Toxicity:**

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE
LC50	96	Fish	2-993mg/L
EC50	48	Crustacea	5-91mg/L
EC50	72	Algae or other aquatic plants	1-972mg/L
EC0	96	Fish	1-848mg/L
NOEC	96	Fish	1-170mg/L

**Persistence and degradability:** Water/Soil: LOW. Air: LOW.

**Bioaccumulative potential:** LOW (LogKOW = 0.29).

**Mobility in soil:** MEDIUM (KOC = 3.827) .

**Other adverse effects:** /

#### Section 13 DISPOSAL CONSIDERATIONS

**Disposal methods:** Recycle wherever possible. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material). Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

## Section 14 TRANSPORT INFORMATION

**UN number:** 1193.**UN proper shipping name:** ETHYL METHYL KETONE (METHYL ETHYL KETONE)**Transport hazard class(es) :** 3**Packing group, if applicable:** II.**Environmental hazards:** /**Special precautions for user:** /

## Section 15 REGULATORY INFORMATION

**Regulations:** This safety data sheet is in compliance with the following national standards: GB/T 16483-2008, GB 13690-2009, GB/T 15098-2008, GB 18218-2009, GB 15258-2009, GB 6944-2012, GB 190-2009, GB/T 191-2008, GB 12268-2012, GA 57-1993, GBZ 2-2007 as well as the following national regulations: Dangerous Goods Transport Administrative Regulation [Published by the Ministry of Railways, 2008], Dangerous Chemicals Safety Administrative Regulation [Published by the State Council, 2011].

## Section 16 OTHER INFORMATION

References	UN Recommendations on the Transport of Dangerous Goods Model Regulations UN Globally Harmonized System of Classification and Labelling of Chemicals

Note 1: When products contain two or more hazardous substances, Safety Data Sheets should be prepared based on the risk of the mixture.

Note 2: Manufacturer / supplier should ensure the correctness of the information contained in the safety data sheets, and updated in a timely manner.

Note 3: As a result of product features without the existence of certain information or no data available (such as boiling point does not exist for the solid) in the table with "/" logo.

