

# SAFETY DATA SHEET

## SECTION 1: Identification of the hazardous chemical and of the supplier

### Product identifier

#### **Product Name**

Additive

### Other means of identification

<b>Product Code(s)</b>	A152
<b>Pure substance/mixture</b>	Mixture

### Details of the supplier of the safety data sheet

#### Supplier Address

#### Company

#### **China Emergency Telephone Number**

+86 020-32954560

### Recommended use of the chemical and restrictions on use

<b>Recommended use</b>	Additive
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<b>Restrictions on use</b>	No information available
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## Section 2: Hazard identification

### **Emergency Overview**

Irritating to eyes

Contains a known or suspected carcinogen

Vapors may cause drowsiness and dizziness

HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames		
<b>Color</b> colorless	<b>Physical state</b> Liquid	<b>Odor</b> Solvent
<b>Classification of the substance or mixture</b>		

Flammable liquids	Category 2
Acute toxicity - Oral	Category 5
Acute toxicity - Dermal	Category 5
Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 2
Specific target organ toxicity - Single exposure	Category 3

#### Label elements



Signal word

Danger

#### **Hazard statements**

Highly flammable liquid and vapor  
May be harmful if swallowed  
May be harmful in contact with skin  
Causes serious eye irritation  
Suspected of causing cancer  
May cause drowsiness or dizziness

#### **Precautionary statements**

##### **Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Wash face, hands and any exposed skin thoroughly after handling  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
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  
Keep cool

##### **Response**

IF exposed or concerned: Get medical advice/attention  
IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
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  
In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

##### **Storage**

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

##### **Disposal**

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

#### **Physical and chemical hazards**

Highly flammable liquid and vapor. Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors can travel considerable distances to a source of ignition where they can ignite, flash back, or explode. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated.

#### **Health hazards**

Immediate Health Effects: If large quantities of this material are swallowed, call a physician immediately. If symptoms persist, call a physician. Causes severe irritation (tears, blurred vision and redness). Irritating, but will not permanently injure eye tissue. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Chronic effects: Contains a known or suspected carcinogen.

#### **Environmental hazards**

Not applicable

#### **Other hazards which do not result in classification**

Repeated exposure may cause skin dryness or cracking

### **Section 3: Composition and information on ingredients**

#### **Substance**

Not applicable.

#### **Mixture**

**Chemical nature** Preparation.

Chemical name	Weight-%	CAS No
Methyl ethyl ketone	90 - 100	78-93-3
Methyl isobutyl ketone	1 - 5	108-10-1

### **Section 4: First-aid measures**

#### **Description of necessary first aid measures**

**General advice** IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.

**Inhalation** Remove to fresh air. IF exposed or concerned: Get medical advice/attention.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

**Ingestion** Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

**Most important symptoms/effects, acute and delayed** Burning sensation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

**For emergency responders** Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use

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personal protective equipment as required. Avoid contact with skin, eyes or clothing.

**Note to physicians**

Treat symptomatically.

## **Section 5: Fire-fighting measures**

### **Extinguishing media**

**Suitable Extinguishing Media**

Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

**Unsuitable extinguishing media**

Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical**

Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**Special protective actions for fire-fighters**

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## **Section 6: Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

**Personal precautions**

Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

**For emergency responders**

Use personal protection recommended in Section 8.

**Environmental precautions**

Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

**Methods and material for containment and cleaning up**

Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

**Precautions to prevent secondary hazards**

Clean contaminated objects and areas thoroughly observing environmental regulations.

**Other information**

Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

## **Section 7: Handling and storage**

### **Precautions for safe handling**

Use personal protection equipment. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. In

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case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. See Section 8 for information on appropriate personal protective equipment.

**Conditions for safe storage,  
including any incompatibilities**

Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials**

None known based on information supplied.

## **SECTION 8: Exposure controls and personal protection**

**Occupational exposure limits**

Chemical name	China	ACGIH TLV
Methyl ethyl ketone 78-93-3 ( 90 - 100 )	TWA: 300 mg/m <sup>3</sup> STEL: 600 mg/m <sup>3</sup>	STEL: 300 ppm TWA: 200 ppm
Methyl isobutyl ketone 108-10-1 ( 1 - 5 )	-	STEL: 75 ppm TWA: 20 ppm

**Biological occupational exposure limits**

No data available

Chemical name	Biological standards	Monitoring and observation processes	ACGIH
Methyl ethyl ketone - 78-93-3			2 mg/L
Methyl isobutyl ketone - 108-10-1			1 mg/L

**Monitoring and observation processes**

No applicable information was found.

**Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles). If splashes are likely to occur, wear safety glasses with side-shields.

**Skin and body protection** Wear suitable protective clothing.

**Hand protection** Wear suitable gloves. Impervious gloves.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

## Section 9: Physical and chemical properties

### Information on basic physical and chemical properties

#### Appearance

Color colorless  
Physical state Liquid

#### Odor

Odor threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not applicable	
Melting point / freezing point	-80 °C	
Initial boiling point and boiling range	75 °C	
Flash point	-9 °C	
Evaporation rate	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	11.5	
Lower flammability or explosive limits	1.2	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	0.81	
Water solubility	partly soluble	
Solubility(ies)	No data available	None known
Partition coefficient	log P(o/w) = 0.26	
Autoignition temperature	450 °C	
Hyphen	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

### Additional information

Explosive properties No information available  
Oxidizing properties No information available

## Section 10: Stability and reactivity

Stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

Hazardous polymerization no.

Conditions to avoid Heat, flames and sparks.

Incompatible materials None known based on information supplied.

Hazardous decomposition products none.

## Section 11: Toxicological information

### Acute toxicity

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## Numerical measures of toxicity

**The following values are calculated based on chapter 3.1 of the GHS document**

ATEmix (oral)	3,440.60 mg/kg
ATEmix (dermal)	4,971.80 mg/kg
ATEmix (inhalation-vapor)	1,160.00 mg/l

### **Unknown acute toxicity**

- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

### **Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Methyl ethyl ketone	2483 mg/kg ( Rat )	= 5000 mg/kg ( Rabbit )	= 11700 ppm ( Rat ) 4 h
Methyl isobutyl ketone	= 2080 mg/kg ( Rat )	= 3000 mg/kg ( Rabbit )	2000 - 4000 ppm ( Rat ) 4 h

**Skin corrosion/irritation** May cause skin irritation.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** Classification based on data available for ingredients.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	China	IARC
Methyl isobutyl ketone	-	Group 2B

### **Legend**

**IARC (International Agency for Research on Cancer)**  
Group 2B - Possibly Carcinogenic to Humans

**Reproductive toxicity** No information available.

**Specific target organ toxicity (single exposure)** May cause drowsiness or dizziness.

**Specific target organ toxicity (repeated exposure)** No information available.

**Target organ effects** Central nervous system. Eyes. Kidney. Liver. Respiratory system. Skin.

**Aspiration hazard** No information available.

## **Section 12: Ecological information**

### **Ecotoxicity**

**Unknown aquatic toxicity** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Crustacea

Methyl ethyl ketone	-	LC50: 3130 - 3320mg/L (96h, Pimephales promelas)	EC50: >520mg/L (48h, Daphnia magna) EC50: =5091mg/L (48h, Daphnia magna) EC50: 4025 - 6440mg/L (48h, Daphnia magna)
Methyl isobutyl ketone	EC50: =400mg/L (96h, Pseudokirchneriella subcapitata)	LC50: 496 - 514mg/L (96h, Pimephales promelas)	EC50: = 170mg/L (48h, Daphnia magna)

**Persistence and degradability** No information available.

**Bioaccumulative potential** There is no data for this product.

#### **Component Information**

Chemical name	Partition coefficient
Methyl ethyl ketone	0.3
Methyl isobutyl ketone	1.9

**Mobility in soil** No information available.

### **SECTION 13: Disposal information**

**Waste chemicals** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

### **SECTION 14: Transportation information**

#### **IMDG**

**UN number or ID number** UN1224  
**UN proper shipping name** Ketones, liquid, n.o.s. (methyl ethyl ketone / methyl isobutyl ketone mixture)  
**Transport hazard class(es)** 3  
**Packing group** II  
**EMS-No** F-E, S-D  
**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** No information available

#### **IATA**

**UN number or ID number** UN1224  
**UN proper shipping name** Ketones, liquid, n.o.s. (methyl ethyl ketone / methyl isobutyl ketone mixture)  
**Transport hazard class(es)** 3  
**Packing group** II  
  
**UN number or ID number** UN1224  
**UN proper shipping name** Ketones, liquid, n.o.s. (methyl ethyl ketone / methyl isobutyl ketone mixture)

#### **Special precautions for user**

Please refer to the applicable dangerous goods regulations for additional information

### **Section 15: Regulatory information**

#### **Safety, health and environmental regulations/legislation specific for the substance or mixture**

#### **National regulations**

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## Law of the People's Republic of China on Prevention and Control of Occupational Diseases

Catalog of occupational hazard factors:

Listed. Chemical hazards.

Catalog of occupational diseases:

Listed. Occupational poisoning.

Chemical name	Category
Methyl ethyl ketone	Chemical hazards

## Regulations on the Control over Safety of Hazardous Chemicals

### Inventory of hazardous chemicals

Flammable liquid - Category 2 Weight-% 100

Chemical name	Inventory of hazardous chemicals
Methyl ethyl ketone	Listed
Methyl isobutyl ketone	Listed

### GB 18218-2009 Identification of major hazard installations for dangerous chemicals

Category	Threshold quantity (T)
Flammable liquids	1000

### **List of hazardous chemicals under priority management**

Not applicable

## Regulations on Labor Protection in Workplaces Where Toxic Substances Are Used

Inventory of highly toxic goods

Not applicable

## Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

List of toxic chemicals severely restricted for import and export in China

Not applicable

## Measures for the Environmental Management of New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances      Contact supplier for inventory compliance status.

## International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

## **Section 16: Other information**

**Issuing Date** 30-Jun-2023

**Revision date** 30-Jun-2023

**Revision Note** The symbol (\*) in the margin of this SDS indicates that this line has been revised.

## **Abbreviations and acronyms**

### Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

## **Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

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EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGL(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

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**End of Safety Data Sheet**