

SAFETY DATA SHEET

1. HAZARDS I	DENTIFICATION
GHS Classification	Flammable liquids (Category 2) Eye irritation (Category 2A)
GHS Label element	
Pictogram	
Signal Word	Warning
Hazard statement(s)	H226 Flammable liquid and vapor. H319 Causes serious eye irritation.
Precautionary Statements	P210 Keep away from heat/sparks/open flames/hot surfaces No smoking. P233 Keep container tightly closed. P241 Use explosion-proof electrical/ ventilating/ lighting/equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P280 Wear protective gloves/ eye protection/ face protection. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 If eye irritation persists: Get medical advice/attention. P403 + P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards May o	cause fire or explosion when exposed to high heat or flame.
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^{*} Classification according to GHS (Globally Harmonized System of Classification and Labelling of Chemicals) (8th revised edition)

2. COMPOSITION/INFORMATION ON INGREDIENTS		
Component	Range % by Wt.	CAS No.
Ethanol	75	64-17-5
Water	24.51	7732-18-5
Carbomer	0.4	54182-57-9
Triethanolamine	0.09	102-71-6

3. FIRST AID	MEASURES
General advice	In the case of an accident seek medical attention immediately. In all cases of suspicion or lasting symptoms, seek medical advice.
Skin contact	Wash with water and soap as a safety measure. If symptoms occur, please get medical attention.
Eye contact	Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If experiencing eye symptoms, get medical attention.
Inhalation	Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms, consult a physician.
Ingestion	If swallowed, rinse mouth thoroughly with water and do not try to induce vomiting. Seek medical attention if symptoms occur.
Acute and delayed symptoms are important	Can generate serious eye irritation.
Protection of first-aiders	First Aid emergency crews should adhere to self-protection procedures and use PPE when exposure exists.
First Aid Procedures	In the event of an emergency, notes to physician to treat symptomatically and supportively.

4. FIRE FIGH	TING MEASURES	
Suitable extinguishing media	Water spray, Alcohol-resistant foam, Dry chemical, Carbon dioxide (CO2), sand	
Unsuitable extinguishing media	High volume water jet	
Specific hazards during fire fighting	Do not use solid water flow because it may spread and spread fire. At the same time, a mixture of vapor and air will form an explosive mixture. Flash back possible over considerable distance. Exposure to combustion products may be harmful to health	
Hazardous combustion products	Carbon oxides and other toxic/irritating fumes.	
Specific extinguishing measures	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.	
Special protective equipment for fire-fighters	Use self-contained breathing apparatus and personal protective equipment in the event of fire.	

5. ACCIDENTAL RELEASE MEASURES	
Personal precautions, protective equipment, and emergency procedures	Remove all sources of ignition. Use personal protective equipment and adhere to safe handling procedures.
Methods and materials for containment and cleaning up	When safe to do so, avoid any further leakage or spillage. Isolate the hazard area and keep unnecessary and unprotected personnel from entering. Removal of ignition sources. Use non-sparking tools and equipment. Soak up the leakage with inert absorbent material and recover into suitable, closed containers for disposal. Local or national regulations may apply to the disposal of materials and what's applicable. Flush the contaminated area with plenty of water. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained to avoid release tothe environment.

6. HANDLING AND STORAGE MEASURES	
Precautions of safe handling	Keep containers tightly closed when not in use. Ensure good ventilation/exhaustion at the workplace. Use explosion-proof electrical/ventilating/lighting equipment and non-sparking tools. Avoid static discharges. Keep away from sources of ignition or heat. No smoking. Do not breathe vapors or spray mist. Do not swallow. Do not get into eyes. Avoid prolonged or repeated contact with skin. Handle in accordance with good industrial hygiene and safety practice.
Conditions for safe storage	Keep in properly labeled containers and tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat, sources of ignition and equipped with adequate firefighting equipment.
Incompatibilities	Avoid to store with the following product types: Strong oxidizing agents, Organic peroxides, Flammable solids, Pyrophoric liquids, Pyrophoric solids, Self-heating substances and mixtures, Substances and mixtures which in contact with water emit, flammable gases, Explosives, Gases.

7. EXPOSURE CONTROLS / PERSONAL PROTECTION			
Occupational	Component	CAS No.	Limited Values
exposure limits	Ethanol 64-17-5	64-17-5	1000 ppm TWA (OSHA) 1900 mg/m3 TWA (OSHA) 1000 ppm TWA (ACGIH) 1900 mg/m3 TWA (NIOSH)
	Triethanolami ne	102-71-6	5 mg/m3 TWA (ACGIH)
Appropriate engineering controls	Use explosion-proof electrical/ventilating/lighting equipment and non-sparking tools. In general, dilution ventilation is a satisfactory health hazard control for this substance. However, if the workers experiencing symptoms, a local exhaust system should be considered. Maintain eye wash fountain and quick-drench facilities in work area.		

	Keep the workplace well-ventilated. If the exposure level exceeds the recommended limits or the engineering controls are not feasible, wear a half facepiece or full- face piece air-purified respirator such as respirator with multi-purpose combination(us) or respirator with type ABEK (EN 14387) respirator cartridges. For emergencies or instance where the exposure levels are not known, use a full- facepiece positive- pressure, air-supplied respirator. The respirators and components should be tested and approved appropriate official standards such as NIOSH(US) or CEN(EU). WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres
Eye protection	Use safety goggles or face protections to protect against possible eye exposure. The safety goggles or face protections should be tested and approved appropriate official standards such as NIOSH(US) or CEN(EU).
Hygiene Measures	Ensure that eye flushing systems and safety showers are located closed to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-sue.
protection	Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Wear the following personal protective equipment: Flame retardant antistatic protective clothing. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc.)
Skin protection	Wear protective gloves and anti-static clothing.
Hand protection	Wear protective gloves. The selected protective gloves should satisfy the specifications of EU. Directive 89/686/EEC and the standard EN374.
Other protection	No information.

9.CHEMICAL AND P	HYSICAL PROPERTIES
Appearance	Colorless viscous liquid, with weak odor.
Odor	Has the original smell of ethanol
Odor threshold	No data available
рН	≈7
Melting point/freezing point	No data available
Initial boiling point and boiling range	> 35 °C
Flash point	21 °C (Closed Cup)
Evaporation rate	No data availableNo data availableN
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density (water=I)	≈0.87

Solubility(ies)	Miscible with water.
Partition coefficient: n-octanol/water	Not applicable
Auto-ignition temperature	No data available
Decomposition temperature	The substance or mixture is not classified self-reactive
Viscosity	55500-11000cp
Octanol/water partition coefficient as log Pow	Ethanol (CAS No.64-17-5): -0.35 (20°C)
Flammability	Flammable liquid (Category 2).
Explosive properties	Not classified as explosive substance.
Oxidizing properties	Not classified as oxidizing substance.
Main purpose	Used for sterilization.
Other properties	No data available.

10.STABILITY AND REACTIVITY		
Reactivity	Not classified as a reactivity hazard.	
Chemical stability	Stable under ordinary conditions of use and storage.	
Possibility of hazardous reactions	Flammable liquid and vapor. Vapors may form explosive mixture with air. Can react with strong oxidizing agents	
Conditions to avoid	High heat, flame.	
Incompatible materials	Oxidizing agents	
Hazardous decomposition products	Exposure to heat and flame may cause fire/explosion and release carbon oxides and other toxic/irritating fumes.	

11. TOXICOLOGICAL INFORMATION	
Information on the likely routes of exposure	Inhalation, Skin contact, Ingestion, Eye contact
Symptoms related to the physical,chemical and toxicological characteristics	No data available
Acute toxicity	Ethanol (CAS No. 64-17-5): LD50 Oral - Rat - > 5000 mg/kg LD50 Dermal - Rabbit - > 5000 mg/kg Triethanolamine (CAS No. 102-71-6): LD50 Oral - Rat - > 5000 mg/kg

Delayed and immediate effects and also chronic effects from short-and long term exposure	No data available
Skin irritation/corrosion	Ethanol (CAS No. 64-17-5): Not irritating.
Eye damage/irritation	No data available.
Respiratory or skin sensitization	No data available.
Reproductive cell mutagenicity	No data available.
Carcinogenicity	The substance is not listed in IARC (International Agency for Research on Cancer) Category.
Reproductive toxicity	No data available.
STOT-single exposure	No data available.
STOT-repeated exposure	No data available.
Aspiration hazard	May be harmful if the liquid entered the respiratory tract.
Health hazards	Skin Contact: May cause mild irritation. Eye Contact: May cause irritation. Inhalation: May causes respiratory tract irritation. Excessive inhalation may cause headache, fatigue and drowsiness. Ingestion: May be harmful if swallowed. May cause burning sensation, headache, confusion, dizziness and unconsciousness.
Other toxicity	No data available.

12. ECOLOGICAL INFORMATION		
Ecological toxicity	Ethanol (CAS No. 64-17-5): Toxicity to fishes LC50 - Pimephales promelas - 14200 mg/L - 96 h Toxicity to daphnia and LC50 - Ceriodaphnia dubia - 5012 mg/L48 h other aquatic invertebrates NOEC - Daphnia magna - 9.6 mg/L - 9 d Toxicity to algae EC50 - Chlorella vulgaris - 275 mg/L - 72 h Triethanolamine (CAS No. 102-71-6): Toxicity to daphnia and EC50 - Daphnia - 609.98 mg/l - 48 h other aquatic invertebrates	
Persistence and degradability	Ethanol (CAS No. 64-17-5): Readily biodegradable. Triethanolamine (CAS No. 102-71-6): Readily biodegradable.	
Bioaccumulation	No data available.	
Mobility in soil	No data available.	
Others	No data available.	

13. DISPOSAL INFORMATION		
Disposal measures	Offer surplus and non-recyclable solutions to a licensed disposal company.	
Notes	Local disposal regulations may differ from Chinese regulations. Dispose in accordance with local country or state.	

14. TRANSPORTA	TION INFORMATION			
Regulations	IATA DGR (61st Edition)	IMDG Code (2018 Edition)		
UN No.	UN1I70	UN1 170		
Proper Shipping Name	Ethanol solution	Ethanol solution		
Hazard Class/Division	3	3		
Packing Group	II	II		
Packing Method	Y341, 353,364	POOi, IBC02, T4, TPI		
Environmental hazards	Not regulated as environmentally hazardo	us substance/marine pollutants		
Transport in bulk				
Land	UN No.: UN1170 Proper shipping name: ethanol solution Hazard class/division: 3 Packing Group: II Environment hazards: not regulated as environmentally hazardous substance Label:			
Air (cargo aircraft)	UN No.: UN1170 Proper shipping name: ethanol solution Hazard class/division: 3 Packing Group: II Environment hazards: not regulated as environmentally hazardous substance Label:			
Air (passenger aircraft)	UN No.: UN1170 Proper shipping name: ethanol solution Hazard class/division: 3 Packing Group: II Environment hazards: not regulated as environmentally hazardous substance Label:			
Ship	UN No.: UN1170 Proper shipping name: ethanol solution Hazard class/division: 3 Packing Group: II Environment hazards: not regulated as environmentally hazardous substance/marine pollutants. Label:			
Notes	No information.			

15. REGULATORY INFORMATION

Domestic authority regulations:

Regulations on the Safety Administration of Dangerous Chemicals (2011).

This substance is listed in General rule for classification and hazard communication of chemicals (GB 13690-2009). International Regulations:

Commission Regulation (EC) No. 1907/2006 (REACH) and its amendments.

Commission Regulation (EC) No. 12 72/2008 (CLP) and its amendments.

Waste Framework Directive 2008/98/EC and its

amendments. Toxic Substance Control Act (TSCA).

16. OTHER INFORMATION	
According to	Safety Data Sheet for Chemical Products-Content and Order of Sections (ISO I I014: 2009)
Issue date	March16,2020
Prepared and checked by	Department of Physical Properties Test, China National Analytical Center
Other information	NO

