DSL Chemicals (Shanghai) Co., Ltd

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MATERIAL SAFETY DATA SHEET

Version 2.0
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Section 1 - Product and Company Information

Product Name: Ethyl Acetoacetate
Product Number: C003457
Company: DSL Chemicals (Shanghai) Co., Ltd.
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Section 2 - Composition, Information on Ingredients

Substance Name	CAS #
Ethyl Acetoacetate	141-97-9

Formula: $C_6H_{10}O_3$
Molecular Weight: 130.14g/mol

Section 3 - Hazards Identification

OSHA Haz Com: CFR 1910.1200: Eye Damage/Irritation [Category 2A]
Flammable Liquids [Category 4]
Signal word: Warning!
Hazard Statement(s): Causes serious eye irritation
Combustible liquid

Pictogram(s) or Symbol(s):
Precautionary Statement(s):
[Prevention]
Wash hands and face thoroughly after handling. Wear eye and face protection. Keep away from heat, sparks, open flames or other hot surfaces. - No smoking. Wear protective gloves, eye protection and face protection.
[Response]
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 or attention. In case of fire: Use dry chemical, CO_2, water spray or alcohol-resistant foam to extinguish.
[Storage]
Store in well-ventilated place. Keep cool.
[Disposal]
Dispose of contents and container in accordance with US EPA guidelines for the classification and determination of hazardous waste listed in 40 CFR 261.3. (See Section 13)
Hazards not otherwise classified: [HNOC] Causes mild skin irritation. May be harmful if swallowed.

Section 4 - First Aid Measures

Inhalation:

Call emergency medical service. Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep victim warm and quiet. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Skin contact:

Call a poison center or doctor if you feel unwell. Remove and wash contaminated clothing before re-use. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Eye contact:

IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Contact with material may irritate or burn eyes. Call emergency medical service. Move victim to fresh air. Check for and remove any contact lenses. Keep victim warm and quiet. Treat symptomatically and supportively. Effects of exposure to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Ingestion:

Do not induce vomiting with out medical advice. If swallowed, seek medical advice immediately and show the container or label. Loosen tight clothing such as a collar, tie, belt or waistband. If a person vomits place them in the recovery position so that vomit will not reenter the mouth and throat. Rinse mouth. Keep victim warm and quiet. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Symptoms/effects:

Acute: Redness.

Delayed: No data available

Immediate medical attention:

If breathing has stopped, perform artificial respiration. Use first aid treatment according to the nature of the injury. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Section 5 - Fire Fighting Measures

Suitable extinguishing media:

Dry chemical, CO_2 , water spray, or alcohol-resistant foam. Consult with local fire authorities before attempting large scale fire fighting operations.

Specific hazards arising from the chemical

Hazardous combustion products:

These products include: Carbon oxides

Other specific hazards:

Closed containers may explode from heat of a fire.

Special precautions for fire-fighters:

Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. Do not use straight streams. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Move containers from fire area if you can do it without risk.

Special protective equipment for fire-fighters:

Wear positive pressure self-contained breathing apparatus (SCBA). Structural fire fighters' protective clothing provides limited protection in fire situations ONLY; it may not be effective in spill situations. Wear chemical protective clothing which is specifically recommended by the manufacturer. It may provide little or no thermal protection.

Section 6 - Accidental Release Measures

Personal precautions:
Avoid contact with skin, eyes, and clothing. Keep people away from and upwind of spill/leak. Use spark-proof tools and explosion-proof equipment. Remove all sources of ignition. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (Section 8). Warn unnecessary personnel to move away. Stop leak if you can do it without risk. Ensure adequate ventilation. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
Personal protective equipment:
Wear eye protection (splash goggles) and face protection (full length face shield). Lab coat. Vapor respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Wear protective gloves (nitrile).
Emergency procedures:
Isolate area until gas has dispersed. In case of a spill and/or a leak, always shut off any sources of ignition, ventilate the area, and excercise caution. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Warn personnel to move away. Prevent entry into sewers, basements or confined areas; dike if needed.
Methods and materials for containment and cleaning up:
ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if without risk. Ventilate the area. Absorb with an inert material and put the spilled material in an appropriate waste disposal container. Use clean non-sparking tools to collect absorbed material.
Environmental precautions:
Prevent further leakage or spillage if safe to do so. Water runoff can cause environmental damage. Prevent entry into sewers, basements or confined areas; dike if needed.

Section 7 - Handling and Storage

Precautions for safe handling:
Do NOT breath gas, fumes, vapor, or spray. Avoid contact with skin and eyes. Keep away from heat and sources of ignition. Use explosion-proof equipment. Use only non-sparking hand tool when handling this product. Ground all equipment containing material. Take measures to prevent build up of electrostatic charge. Good general ventilation should be sufficient to control airborne levels. Keep container dry. Handle and open container with care. Wear suitable protective clothing, gloves and eye/face protection. When using do not eat, drink, or smoke. Keep away from sources of ignition.
Conditions for safe storage:
Keep only in the original container in a cool well-ventilated place. Keep away from sources of ignition. Store and use away from heat, sparks, open flame, or any other ignition source. Keep away from incompatibles. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Avoid prolonged storage periods.
Storage incompatibilities:
Combustible substances, Store away from oxidizing agents

Section 8 - Exposure Controls, Personal Protection

Exposure limits:
No data available
Appropriate engineering controls:
Good general ventilation should be sufficient to control airborne levels. Ventilation is normally required when handling or using this product. Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance. Follow safe industrial engineering/laboratory practices when handling any chemical.
Personal protective equipment

Respiratory protection:	Vapor respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent.
Hand protection:	Wear protective gloves.
Eye protection:	Splash goggles.
Skin and body protection:	Lab coat.

Section 9 - Physical and Chemical Properties

Physical state (20°C):	Liquid
Form:	Clear
Color:	Colorless or light yellow
Odor:	Fruity
Odor threshold:	No data available
Melting point/freezing point:	-43°C (-45°F)
Boiling point/range:	184°C (363°F)
Decomposition temperature:	No data available
Relative density:	1.03
Kinematic viscosity:	No data available
Partition coefficient: n-octanol/water (log Pow)	0.27
Flash point:	75°C (167°F)
Flammability (solid, gas):	No data available
pH:	No data available
Vapor pressure:	0.1kPa/20°C
Vapor density:	4.48
Dynamic Viscosity:	No data available
Evaporation rate: (Butyl Acetate = 1)	No data available
Autoignition temperature:	295°C (563°F)
Flammability or explosive limits:	Lower: 1.4% Upper: 9.5%
Solubility (ies):	Water: Slightly soluble (2.86g/100mL, 20°C) Miscible: Ether, Acetone, Many organic solvents

Section 10 - Stability and Reactivity

Reactivity:
Not Available.
Chemical Stability:
Stable under recommended storage conditions. (See Section 7)
Possibility of Hazardous Reactions:
In use, may form flammable/explosive vapor-air mixture.
Conditions to avoid:
Avoid excessive heat and light.
Incompatible materials:
Oxidizing agents
Hazardous Decomposition Products:
No data available

Section 11 - Toxicological Information

RTECS Number: AK5250000
Acute Toxicity:
orl-mus LD50:5105 mg/kg orl-rat LD50:3980 mg/kg
skn-rbt LD:>20 mL/kg
Skin corrosion/irritation:
skn-rbt 510 mg open MLD
Serious eye damage/irritation:
eye-rbt 100 mg SEV
Respiratory or skin sensitization:
No data available
Germ cell mutagenicity:

dnr-bcs 21 mg/disc mmo-esc 200 ug/plate (-S9)
Carcinogenicity:
No data available
IARC: No data available NTP: No data available OSHA: No data available
Reproductive toxicity:
No data available
Routes of Exposure:
Inhalation, Eye contact, Ingestion, Skin contact.
Symptoms related to exposure:
Eye contact may result in redness or pain. Skin contact may result in redness, pain or dry skin. Overexposure may result in serious illness or death.
Potential Health Effects:
Skin and eye contact may result in irritation. May be harmful if inhaled or ingested. Overexposure may result in serious illness or death.
Target organ(s):
No data available

Section 12 - Ecological Information

Ecotoxicity

Fish:	No data available
Crustacea:	No data available
Algae:	No data available
Persistence and degradability:	No data available
Bioaccumulative potential (BCF):	No data available
Mobillity in soil:	No data available
Partition coefficient: n-octanol/water (log Pow)	0.27
Soil adsorption (Koc):	No data available
Henry's Law: constant (PaM^3/mol)	No data available

Section 13 - Disposal Considerations

Disposal of product:
Recycle to process if possible. It is the generator's responsibility to comply with Federal, State and Local rules and regulations. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. This section is intended to provide assistance but does not replace these laws, nor does compliance in accordance with this section ensure regulatory compliance according to the law. US EPA guidelines for Identification and Listing of Hazardous Waste are listed in 40 CFR Parts 261. The product should not be allowed to enter the environment, drains, water ways, or the soil.
Disposal of container:
Dispose of as unused product. Do not re-use empty containers.
Other considerations:
Observe all federal, state and local regulations when disposing of the substance.

Section 14 - Transport Information

DOT
Classed non-hazardous for shipping.
IMDG
Classed non-hazardous for shipping.
IATA
Classed non-hazardous for shipping.

Section 15 - Regulatory Information

Toxic Substance Control Act (TSCA 8b.):
This product is ON the EPA Toxic Substances Control Act (TSCA) inventory.

US Federal Regulations

CERCLA Hazardous substance and Reportable Quantity:

SARA 313:	Not Listed
SARA 302:	Not Listed

State Regulations

State Right-to-Know

Massachusetts	Not Listed
New Jersey	Listed
Pennsylvania	Not Listed
California Proposition 65:	Not Listed

Other Information

NFPA Rating:		HMIS Classification:	
Health:	2	Health:	2
Flammability:	2	Flammability:	2
Instability:	0	Physical:	0

International Inventories

WHMIS hazard class:	B3: Combustible Liquid. D2B: Materials causing other toxic effects. (Toxic)
Canada: DSL	On DSL
EC-No:	205-516-1

Notice Through Official Gazettes Reference Number: (Japan)

ENCS:	(2)-1475, (2)-1505

Section 16 - Additional Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.