



## 2-Acetoacetoxy ethyl methacrylate

### Safety Data Sheet

According to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Date of Compilation : February 25, 2019

Date of Revision : January 29, 2024

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Version Name : 0961Gj Ghs06 Div.01 sds 2-Acetoacetoxy ethyl methacrylate

Supersedes date : January 08, 2024

Supersedes version : 0961Gj Ghs05 Div.01 sds 2-Acetoacetoxy ethyl methacrylate

## 2-Acetoacetoxy ethyl methacrylate

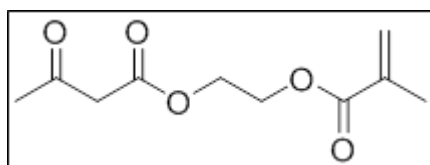
### Safety Data Sheet

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#### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/ UNDERTAKING

##### 1.1 Product Identifier

Product name	: <b>2-Acetoacetoxy ethyl methacrylate</b>
CAS RN	: 21282-97-3
EC#	: 244-311-1
Synonyms	: Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propen-1-yl)oxy]ethyl ester, 2-Acetoacetoxy ethyl methacrylate, 2-[(2-methyl-1-oxoallyl)oxy]ethyl acetoacetate
Technical name	: Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propen-1-yl)oxy]ethyl ester
Molecular formula	: C <sub>10</sub> H <sub>14</sub> O <sub>5</sub>
Structural formula	:



##### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Relevant identified uses:** It is used as polymer coatings & in pharma industries.

**Uses advised against:** None

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

###### FACTORY & REGISTERED OFFICE:

Jubilant Ingrevia Limited,  
Bhartiagram, Gajraula, District: Amroha, Uttar Pradesh-244223, India  
T +91-5924-267437, +91-5924-267438

###### USA OFFICE:

Jubilant Life Sciences USA Inc.  
790 Township Line Road, Suite 325, Yardley, Pennsylvania 19067, USA  
Tel: +1 908 658 9988

###### HEAD OFFICE:

Jubilant Ingrevia Limited  
Plot 1-A, Sector 16-A, Institutional Area, Noida, Uttar Pradesh, 201301 – India  
T +91-120-4361000 - F +91-120-4234881 / 84 / 85 / 87 / 95 / 96 [support@jubl.com](mailto:support@jubl.com) -  
[www.jubilantingrevia.com](http://www.jubilantingrevia.com)

##### 1.4. Emergency telephone number

**For Chemical Emergency ONLY (in the case of fire, leak, spill, exposure or accident) call**

**Chemtrec:** 1-800-424-9300 (US), 1-703-527-3887 (Outside U.S.)



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Chemtrec (India) : 000-800-100-7141

For ALL other emergencies call Emergency Control Room Gajraula at 99970 22412

## SECTION 2: HAZARD(S) IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### GHS-US classification

Not Classified

### 2.2 Label Elements

**Pictograms:** None

**Signal word:** None

### 2.3 Hazard and Precautionary Statements:

#### Hazard Statements

Not classified as Hazardous.

#### Precautionary Statements

Not classified as Hazardous.

#### Hazards not otherwise classified (HNOC)

None known

#### Other Information

No information available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS Number	Assay/Purity
2-Acetoacetoxy ethyl methacrylate	21282-97-3	Min. 95%

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of 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.

**Skin contact:** Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. 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.

### 4.2. Most important symptoms and effects, both acute and delayed:

No Information available



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#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### SECTION 5: FIRE-FIGHTING MEASURES

#### 5.1 : Extinguishing media

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media:** Solid streams of water

#### 5.2 : Special hazards arising from the substance or mixture

Keep product and empty container away from heat and sources of ignition. Heating or fire can release toxic gas.

**Hazardous combustion products:** Thermal decomposition or combustion may produce hazardous gases and/or materials. These products include: Carbon oxides

#### **Explosion Data:**

Sensitivity to mechanical impact: Not available.

Sensitivity to static discharge: Not available

#### 5.3 : Advice for firefighters

Wear self-contained breathing apparatus (SCBA) for firefighting if necessary.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### 6.1 : Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc

#### 6.2 : Environmental precautions

Prevent product from entering drains.

#### 6.3 : Methods and materials for containment and cleaning up

Absorb spilled material in a suitable absorbent (e.g. rag, dry sand, earth, saw-dust). In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations

#### 6.4 : Reference to other sections

For disposal see section 13.

### SECTION 7: HANDLING AND STORAGE

#### 7.1 : Precautions for safe handling

**Safe Handling:**

- Handling must be performed in a well ventilated place.
- Wear suitable protective equipment.
- Prevent generation of vapour or mist.
- Wash hands and face thoroughly after handling.
- Use a ventilation, local exhaust if vapour will be generated.
- Avoid contact with skin, eyes and clothing.
- Avoid repeated exposure.

**Advice on general occupational hygiene:**

- Do not eat, drink and smoke in work areas.
- Wash hands after use.
- Remove contaminated clothing and protective equipment before entering eating areas.

**7.2 : Storage**

- Keep container tightly closed.
- Store at ambient temperature in a dry and well-ventilated place.
- Store away from incompatible materials such as oxidizing agents.

**SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**8.1 : Control parameters**

- No information available

**Exposure Limits Values**

- OSHA PEL: No data available.
- NIOSH REL: No data available.
- ACGIH TLV: No data available.

**Exposure Limits (International)**

- No Information available

**Derived No-Effect-Levels (DNEL) Predicted No-Effect-concentration (PNEC)**

- No Information available

**8.2 : Exposure controls**

**General protective and hygiene measures**

- Wear protective gloves/protective clothing/eye protection/face protection.
- The standard precautionary measures should be adhered to when handling
- Wash hands during breaks and at the end of handling the material
- Immediately remove any contaminated clothing



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#### Appropriate Engineering Controls:

- Follow safe industrial engineering/laboratory practices when handling this chemical. Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath. Use adequate ventilation to keep airborne concentrations low.

#### Personal Protection

**Respiratory protection:** In case of insufficient ventilation, wear suitable respiratory equipment. 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.

**Other personal protection advice:** No data is available

#### Occupational hygiene

- No data available.

#### Additional Information

- Only use protective equipment in accordance with national/international regulations. Follow the national regulation about wearing personal protective equipment and the warranty given.
- Do not inhale substances, handle in fume hood.

#### Control of environmental exposure

- Prevent further leakage or spillage if safe to do so. Do not let product enter drains

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1 Information on basic physical and chemical properties.

Sr. No.	Parameter	Typical value
1.	Appearance	Colorless to pale yellow liquid
2.	Molecular weight	214.22
3.	Odor	Characteristic
4.	Odor Threshold	No information available
5.	pH	No information available
6.	pKa (@25°C)	10.16±0.46
7.	Melting point	<-25 °C
8.	Boiling point	266°C
9.	Flash point	111°C at 1040 mbar
10.	Evaporation rate (n-BuAc=1)	No information available
11.	Flammability	Non flammable
12.	Upper/lower flammability or Explosive limits	No information available
13.	Vapor pressure	0.24 Pa at 25 °C
14.	Specific Gravity	No information available

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Sr. No.	Parameter	Typical value
15.	Density	1.12 g/cm <sup>3</sup> at 20 °C
16.	Solubility	1.8g/100ml @ 25-30°C soluble in water Soluble in many organic solvents
17.	Partition coefficient ( Octonol /water)	0.90 at 25°C
18.	Auto-ignition temperature	315 °C at 101 325 Pa
19.	Decomposition temperature	No information available
20.	Viscosity	8.19 mPa · s (dynamic) at 20°C
21.	Explosive property	Non explosive
22.	Oxidizing property	No

## 9.2 Other Information

### 9.2.1. Information with regard to physical hazard classes

- No information available

### 9.2.2. Other safety characteristics

- **DSC Result:** The thermogram shows first exothermic decomposition onset at 133°C with heat evolution of 161 J/g of sample (Severity: Medium) and second exothermic decomposition onset at 271°C with heat evolution of 56 J/g of sample (Severity: Low).

## SECTION 10: STABILITY AND REACTIVITY

- **Reactivity:** No data available
- **Chemical stability:** Polymerization may occur under the influences of heat, light or on contact with polymerization initiators such as peroxides etc
- **Possibility of hazardous reactions:** No special reactivity has been reported
- **Conditions to avoid:** Heat, Light
- **Incompatible materials:** Oxidizing agents, Acids, Bases, Peroxides, Amines
- **Hazardous decomposition Products :** Carbon dioxide & Carbon monoxide.
- **Hazardous Polymerization:** No information available

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 : Information on toxicological effects

#### Acute Toxicity:

**Oral-rat LD50:** >5000 mg/kg

**Dermal-rat LD50:** > 2000 mg/kg

**Inhalation-** No data available

**Skin irritation/corrosion :** Not Irritating

**Eye damage/irritation:** Non-irritating

**Respiratory or skin sensitization:** Negative

#### Germ cell mutagenicity:

Toxicity – InVivo: No adverse effect observed (negative)



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**Carcinogenicity:** No classification data on carcinogenic properties of this material is available from EPA, IARC, NTP, OSHA or ACGIH.

**Reproductive toxicity:**

Effect on Fertility: Oral route: No adverse effect observed NOAEL 500 mg/kg bw/day (subacute, rat)

Effect on developmental toxicity: Oral route: No adverse effect observed NOAEL 1 000 mg/kg bw/day (subacute, rat)

**Specific target organ system toxicity - repeated exposure:** No effects known.

**Specific target organ system toxicity - single exposure:** No effects known.

**Aspiration hazard:** No data available.

**Additional information:** To the best of our knowledge, the chemical, physical and toxicological properties of this substance have not been thoroughly investigated.

**RTECS:** Not available

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1 : Toxicity

- Short-term toxicity to fish  
LC50 for freshwater fish: 89.1 mg/L
- Long-term toxicity to fish  
The test substance did not show any toxic effects in acute toxicity studies on water organisms. No toxic findings in other acute toxicity studies (rodent) were observed. Due to the chemical structure, the low log Pow (0.9) and the very good water solubility (1.8g/100ml) of the molecule indicates that the substance is unlikely to cross biological membranes.
- Short-term toxicity to aquatic invertebrates  
EC50/LC50 for freshwater invertebrates: 96.6 mg/L.
- Long-term toxicity to aquatic invertebrates  
The test substance did not show any toxic effects in acute toxicity studies on water organisms. No toxic findings in other acute toxicity studies (rodent) were observed. Due to the chemical structure, the low log Pow (0.9) and the very good water solubility (1.8g/100ml) of the molecule, indicates that the substance is unlikely to cross biological membranes.
- Toxicity to aquatic algae and cyanobacteria  
EC50/LC50 for freshwater algae: 69.2 mg/L
- Toxicity to microorganisms  
EC10 or NOEC for microorganisms: 320 mg/L

### 12.2 : Persistence and degradability

#### 2-Acetoacetoxy ethyl methacrylate

Persistence and degradability	Biodegradation in water: under test conditions no biodegradation observed
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#### 12.3 : Bio accumulative potential

2-Acetoacetoxy ethyl methacrylate	
Bio accumulative potential	Non-bioaccumulative

The study does not need to be conducted because the substance has a low potential for bioaccumulation based on log Kow <=3

#### 12.4 : Mobility in Soil

2-Acetoacetoxy ethyl methacrylate	
Soil Adsorp. Coeff. (Estimated Koc)	Koc at 20 °C: 58.8
Henry's Law Constant	9.86e-8 atm-m3/mole
Not persistent in the soil environment	

#### 12.5 : Other adverse effects

- No data available

### SECTION 13: DISPOSAL CONSIDERATIONS

#### 13.1 : Disposal of waste

- 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.

#### 13.2 : Disposal of packaging

- Dispose of as unused product. Do not re-use empty containers.

### SECTION 14: TRANSPORT INFORMATION

- This substance is considered to be non-Hazardous for transport by Air/ Rail/ Road and Sea and thus not regulated by IATA/ ICAO/ US DOT/ IMO/ IMDG.

	ADR/ RID/ DOT	IMDG	IATA
<b>14.1 UN number</b>	Not classified as dangerous for transport.	Not classified as dangerous for transport.	Not classified as dangerous for transport.
<b>14.2 UN proper shipping name</b>	Not dangerous good	Not dangerous good	Not dangerous good.
<b>14.3 Transport hazard class(es)</b>	Not classified as dangerous for transport.	Not classified as dangerous for transport.	Not classified as dangerous for transport.
<b>14.4 Packing group</b>	Not classified as dangerous for transport.	Not classified as dangerous for transport.	Not classified as dangerous for transport.



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#### 14.5 Environmental hazards

Not classified as dangerous for transport.	Not classified as dangerous for transport.	Not classified as dangerous for transport.
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#### SECTION 15: REGULATORY INFORMATION

##### Classification as per CLP Regulation 1272/2008:

Not classified

##### **Hazard Statements:**

Not classified

##### International Global Inventories

Chemical Inventory Lists:	Status
TSCA:	Listed (Active)
EC Inventory	Listed (244-311-1)
Canada(DSL/NDSL):	Listed (DSL)
China Catalog of Hazardous chemicals 2022	Not Listed
New Zealand Inventory of Chemicals (NZIoC)	Listed
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Listed
Inventory of Existing and New Chemical Substances (ENCS)	Listed (MITI No. 2-3579)
Japan ISHL Existing Substances List (ISHL)	Listed
China: IECSC	Listed
Existing Chemicals List (KECI)	Listed
Australian Inventory of Chemical Substances (AICS)	Listed

##### **US information**

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act): 2-Acetoacetoxy ethyl methacrylate is not listed

SARA 302/304: 2-Acetoacetoxy ethyl methacrylate is not listed

SARA 311/312: See section 2 for more information

California Prop. 65: 2-Acetoacetoxy ethyl methacrylate is not listed

CAA (Clean Air Act): 2-Acetoacetoxy ethyl methacrylate is not listed

CWA (Clean Water Act): 2-Acetoacetoxy ethyl methacrylate is not listed

##### **EU Information**

Water hazard class (WGK): WGK 1 (low hazards to water)

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006: 2-Acetoacetoxy ethyl methacrylate is not listed

#### SECTION 16: OTHER INFORMATION

##### **a) : Compilation information of safety data sheet**

Date of Compilation : February 25, 2019



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#### b) A key or legend to aberrations and acronyms used in the safety data sheet

SCBA	= Self Contained Breathing Apparatus.
NIOSH REL	= National Institute for Occupational Safety and Health Recommended Exposure Limit.
OSHA PEL	= Occupational Safety and Health Administration Permissible Exposure Limit.
RTECS	= Registry of Toxic Effects of Chemical Substances.
IARC	= International Agency for Research on Cancer.
TSCA	= Toxic Substances Control Act.
DSL/NDSL	= Domestic/Non-Domestic Substances List.
TLV	= Threshold Limit Value.
ACGIH	= American Conference of Governmental Industrial Hygienists.
REACH	= Registration, Evaluation .Authorization and Restriction of Chemicals.
CLP	= Classification, Labeling and Packaging.
GHS	= Globally Harmonized System.
IMDG-Code	= International Maritime Code for Dangerous Goods.
ICAO	= International Civil Aviation Organization.
IATA/DGR	= International Air Transport Association/Dangerous Goods Regulation.

#### c) Key Literature reference and sources for data

##### Biographical reference and data sources

- Globally Harmonized System of Classification and Labelling of Chemicals.
- CLP REG (regulation) (EC) no. 1272/2008, last modification by regulation (EC) no. 790/2009
- REG (EC) no. 1907/2006, last modification by REG (EC) Nr. 830/2015

##### SDS US (GHS HazCom 2012)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

(End of Safety Data Sheet)