SAFETY DATA SHEET

according to US Regulation 29 CFR 1910.1200 and the Canadian HPA

Methyl acetoacetate

Version 1.4 | Revision Date 2021.11.15 | Print Date 2022.05.20

SECTION 1. IDENTIFICATION

Product name : Methyl acetoacetate

Manufacturer or supplier's details

Company : Arxada, LLC
412 Mount Kemble Avenue, Suite 200S
Morristown, NJ 07960
USA

Telephone : 1-201-316-9200
E-mail address : sds-info@arxada.com

Emergency telephone number : For incidents only (spill, leak, fire, exposure, or accident), call CHEMTREC at
1-800-424-9300 (inside North America) [CCN 864796]
1-703-741-5970 (outside North America) [CCN 864796]

+41 61 313 94 94 (24h)

Recommended use of the chemical and restrictions on use

Recommended use : Intermediate
Odour agents
Solvent

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 4

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H227 Combustible liquid.
H318 Causes serious eye damage.

Precautionary statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
Disposal:
P501 Dispose of contents/container in accordance with local regulation.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture	:	Substance
Substance name	:	Butanoic acid, 3-oxo-, methyl ester
CAS-No.	:	105-45-3

Hazardous components

Chemical name / Synonyms	CAS-No.	Concentration (% w/w)
Methyl acetoacetate	105-45-3	>= 90 - <= 100

SECTION 4. FIRST AID MEASURES

If inhaled	:	Move to fresh air. Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice. If breathing is irregular or stopped, administer artificial respiration. Keep respiratory tract clear.
In case of skin contact	:	After contact with skin, wash immediately with plenty of soap and water. If on clothes, remove clothes. In the case of skin irritation or allergic reactions see a physician.
In case of eye contact	:	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	No information available.

Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Heating or fire can release toxic gas.
Further information	:	Use water spray to cool unopened containers.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Use respirator when performing operations involving potential exposure to vapour of the product.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.
Methods and materials for containment and cleaning up	:	Neutralize with chalk, alkali solution or ammonia. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Take precautionary measures against static discharges.
Advice on safe handling	:	Do not breathe vapours/dust. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed. Keep in a well-ventilated place. Electrical installations / working materials must comply with the technological safety standards. To maintain product quality, do not store in heat or direct sunlight.

Further information on storage conditions	:	Store containers in compliance with the most recent NFPA Code (NFPA 30). Ground all containers prior to pouring.
Technical measures/Precautions	:	Store containers in compliance with the most recent NFPA Code (NFPA 30). Ground all containers prior to pouring.
Further information on storage stability	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	:	Use only in area provided with appropriate exhaust ventilation.

Personal protective equipment

Respiratory protection	:	In the case of vapour formation use a respirator with an approved filter. Respirator with ABEK filter. Respirator with a vapour filter (EN 141)
Hand protection		
Material	:	Nitrile rubber
Remarks	:	Wear protective gloves. Break through time : > 480 min
Eye protection	:	Safety glasses with side-shields conforming to EN166 Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Choose body protection according to the amount and concentration of the dangerous substance at the work place. Impervious clothing
Hygiene measures	:	Avoid contact with skin, eyes and clothing. When using do not eat or drink. When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	clear
Colour	:	colourless
Odour	:	ester-like
Odour Threshold	:	no data available
pH	:	3.8 (68 °F / 20 °C)

Methyl acetoacetate

		Concentration: 863 g/l
Freezing point	:	-22 °F / -30 °C GLP: no
Boiling point/boiling range	:	327 °F / 164 °C (1,013 hPa) GLP: no
Flash point	:	146.3 °F / 63.5 °C (1,013 hPa) Method: Regulation (EC) No. 440/2008, Annex, A.9, closed cup GLP: no
Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available
Flammability (liquids)	:	no data available
Upper explosion limit	:	14.5 %(V)
Lower explosion limit	:	1.4 %(V)
Vapour pressure	:	0.187 hPa (68 °F / 20 °C) Decomposition: no Method: OECD Test Guideline 104 GLP: no 0.354 hPa (77 °F / 25 °C) Decomposition: no Method: OECD Test Guideline 104 GLP: no 4.34 hPa (122 °F / 50 °C) Decomposition: no Method: OECD Test Guideline 104 GLP: no
Relative vapour density	:	4
Relative density	:	no data available
Density	:	1.0767 g/cm3 (68 °F / 20 °C) Method: oscillating densitometer GLP: no
Water solubility	:	> 1,000 g/l Method: OECD Test Guideline 105 GLP: no
Solubility in other solvents	:	completely miscible Solvent: organic solvent
Partition coefficient: n-octanol/water	:	log Pow: -0.4(68 °F / 20 °C) Method: OECD Test Guideline 107 GLP: no
Auto-ignition temperature	:	707 °F / 375 °C (1,007.2 hPa)

		Method: Council Regulation (EC) No. 440/2008, A.15 GLP: no
Decomposition temperature	:	>= 554 °F / 290 °C
Viscosity, dynamic	:	1.8 mPa.s (68 °F / 20 °C)
Viscosity, kinematic	:	no data available
Explosive properties	:	Classification Code: Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	116.12 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. No hazards to be specially mentioned.
Conditions to avoid	:	Heat Exposure to sunlight.
Incompatible materials	:	Strong acids and strong bases Oxidizing agents
Hazardous decomposition products	:	No decomposition if used as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Acute oral toxicity	:	LD50 (Rat): 2,580 mg/kg Method: DOT
Acute inhalation toxicity	:	Remarks: no data available
Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 402 GLP: yes

Skin corrosion/irritation

Species: Rabbit
Exposure time: 4 h
Method: DOT
Result: Mild skin irritation

Serious eye damage/eye irritation

Species: Rabbit
Result: Irreversible effects on the eye

Exposure time: 24 h
Assessment: Corrosive
Method: OECD Test Guideline 405
GLP: yes

Respiratory or skin sensitisation

Test Type: Local Lymph Node Assay
Species: Mouse
Assessment: Does not cause skin sensitisation.
Method: OECD Test Guideline 429
Result: not sensitizing
GLP: yes

Germ cell mutagenicity

Genotoxicity in vitro

: Test Type: Ames test
Species: Salmonella typhimurium
Method: OECD Test Guideline 471
Result: negative
GLP: yes

: Test Type: Chromosome aberration test in vitro
Species: Chinese hamster lung cells
Metabolic activation: yes
Method: OECD Test Guideline 473
Result: negative
GLP: yes

: Test Type: gene mutation test
Species: V79
Metabolic activation: yes
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Carcinogenicity

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

STOT - single exposure

Remarks: no data available

STOT - repeated exposure

Remarks: no data available

Methyl acetoacetate

Repeated dose toxicity

Species: Rat
Application Route: Oral
Dose: 100 - 300 - 1000 MG/KG/TAG
Group: yes
Method: OECD Test Guideline 407
GLP: yes

Aspiration toxicity

No aspiration toxicity classification

Further information

Remarks: no data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): > 111.4 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Test Type: Immobilization Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae	:	EbC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Test Type: Growth inhibition Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes ErC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Test Type: Growth inhibition Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
Toxicity to microorganisms	:	EC0 (Bacteria): 500 mg/l Exposure time: 24 h Test Type: fermentation tube test Analytical monitoring: no GLP: no

Persistence and degradability

Biodegradability	:	Test Type: Respirometer test

Inoculum: activated sludge
Concentration: 76 mg/l
Result: Readily biodegradable.
Biodegradation: 94 % (Theoretical oxygen demand)
Exposure time: 28 d
Method: OECD Test Guideline 301F
GLP: yes

Test Type: Zahn-Wellens Test
Inoculum: activated sludge
Result: Inherently biodegradable.
Biodegradation: 100.0 %
Exposure time: 5 d
Method: OECD Test Guideline 302B
GLP: no

Bioaccumulative potential

Bioaccumulation : Remarks: no data available

Remarks: The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.

Components:

Methyl acetoacetate:

Partition coefficient: n-octanol/water : log Pow: -0.4 (20 °C)
Method: OECD Test Guideline 107
GLP: no

Mobility in soil

Distribution among environmental compartments : Remarks: no data available

Other adverse effects

Ozone-Depletion Potential : Regulation: US. EPA Clean Air Act (CAA) Section 602 Ozone-Depleting Substances (40 CFR 82, Subpt. A, App A & B)
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of contents/container in accordance with local regulation.
Contact waste disposal services.
Do not dispose of waste into sewer.

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

SECTION 14. TRANSPORT INFORMATION

DOT	:	Not dangerous goods
UN number	:	Not applicable
Proper shipping name	:	Not applicable
Transport hazard class	:	Not applicable
Packing group	:	Not applicable
TDG	:	Not dangerous goods
UN number	:	Not applicable
Proper shipping name	:	Not applicable
Transport hazard class	:	Not applicable
Packing group	:	Not applicable
IATA		Not dangerous goods
UN number	:	Not applicable
Proper shipping name	:	Not applicable
Transport hazard class	:	Not applicable
Packing group	:	Not applicable
IMDG		Not dangerous goods
UN number	:	Not applicable
Proper shipping name	:	Not applicable
Transport hazard class	:	Not applicable
Packing group	:	Not applicable
ADR	:	Not dangerous goods
UN number	:	Not applicable
Proper shipping name	:	Not applicable
Transport hazard class	:	Not applicable
Packing group	:	Not applicable
RID	:	Not dangerous goods
UN number	:	Not applicable
Proper shipping name	:	Not applicable
Transport hazard class	:	Not applicable
Packing group	:	Not applicable
Special precautions for user	:	none
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	:	Not applicable

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards

See above: SECTION 2. Hazard Identification-GHS Classification

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Components	CAS-No.	Concentration
Methyl acetoacetate	105-45-3	>= 90 - <= 100 %

This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

Clean Water Act

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

Components	CAS-No.
Methyl acetoacetate	105-45-3

Pennsylvania Right To Know

Components	CAS-No.
Methyl acetoacetate	105-45-3

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The product components have the following inventory status:

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 2021.11.15

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Date format : yyyy/mm/dd

US / EN