

SAFETY DATA SHEET

DIETHYL MALONATE

SECTION 1: Identification of the substance/mixture and of the company/undertaking Trade name:

1.1 Product identifier:	
CAS Number:	105-53-3
EC number:	203-305-9
1.2 SYNONYMS:	• Malonic acid diethyl ester • Ethyl malonate • Diethyl 2-propane-dioate • Malonyl diethyl ester • Ethyl ester of malonic acid

SECTION 2: Hazards identification:

2.1 Classification of the substance or mixture:	Classification according to Regulation (EC) No 1272/2008 The substance is classified according to the CLP regulation.
2.2 Label elements:	Labelling according to Regulation (EC) No 1272/2008 Flammable liquid (Category 3) Acute Toxicity (Category 4) Skin Irritant (Category 2) Serious eye irritation (Category 2)
Hazard Pictograms:	
Signal Word:	Danger
Hazard statements:	H319: Causes serious eye irritation. H226: Flammable liquid and vapor. H302: Harmful if swallowed. H312: Harmful in contact with skin. H332: Harmful if inhaled. H315: Causes skin irritation.
Precautionary Statements:	P210: Keep away from heat, sparks, open flames, and hot surfaces. No smoking. P261: Avoid breathing vapors. P264: Wash hands thoroughly after handling.

	P280: Wear protective gloves/protective clothing/eye protection/face protection. 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
2.3 Other hazards:	
Inhalation:	can cause respiratory irritation, dizziness, headaches, and nausea.
Ingestion:	can cause nausea, vomiting, abdominal pain, and central nervous system depression.
Skin Contact:	can cause irritation, redness, and dryness, and prolonged exposure may lead to more severe skin damage.
Eye contact:	can cause severe irritation, redness, pain, and potential eye damage.
Chronic Exposure:	may lead to adverse effects on the liver and kidneys, as well as potential damage to the central nervous system.
Aggravation of pre-existing conditions:	may aggravate respiratory disorders, liver or kidney diseases, and central nervous system disorders.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation:	Substances
CAS No:	Description: 105-53-3 DIMETHYL MALONATE
Identification number(s):	EC number: 203-305-9

SECTION 4: First aid measures

4.1 Description of first aid measures	
General information:	
After inhalation:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician
After skin contact:	Remove contaminated clothing. Wash with soap and water. Consult a physician.
After eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. consult a physician.
After swallowing:	Rinse mouth with water. Immediately after ingestion. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed:	Causes serious eye irritation.
4.3 Indication of any immediate medical attention and special treatment needed:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media:	Carbon dioxide. Water spray. Alcohol-resistant foam.
5.2 Special hazards arising from the substance or mixture:	Formation of explosive dust/air mixtures is possible. In case of fire, carbon monoxide can be formed.
5.3 Advice for firefighters:	Wear fully protective suit, safety glasses and respiratory device. Cool tanks/drums with water spray/remove them into safety.
5.4 further information:	no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Avoid dust accumulation. Seek medical attention.
6.2 Environmental precautions:	Do not enter this chemical into drains.
6.3 Methods and material for containment and cleaning up:	Take up spill into absorbent material, e.g.: sand, earth, vermiculite, powdered limestone. Scoop absorbed substance into closing containers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:	For use in are with adequate ventilation. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material Do not use in confined spaces. Electrostatic discharge protection. Minimize dust generation and accumulation. Avoid ingestion and inhalation.
7.2 Conditions for safe storage, including any incompatibilities:	Store in original containers. Keep containers securely sealed Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers.

	Protect containers against physical damage and check regularly for leaks. Store in a dry and dark area.
Requirements to be met by storerooms and receptacles:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
7.3 Specific end uses:	no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters	
Additional information about design of technical facilities:	A system of local and general exhaust is recommended.
8.2 Exposure controls	
Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment:	Dust respirator, protective masks, wearing anti chemical gloves, rubber gloves, etc.
General protective and hygienic measures:	Eyes, body and hand protection, maintain indoor air unobstructed. Wear protective equipment.
	Respiratory protection: Required.
Protection of hands:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws. Wash and dry hands.
	Eye protection: Required
Protection of Body:	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties	
General Information	
Appearance: Form:	Liquid
Colour:	Colorless
Odour:	Plesant fruity odour
pH-value:	No data available
Melting point/Melting range:	-47°C
Boiling point/Boiling range:	190°C
Flammability (solid, gaseous):	90°C
Ignition temperature:	435 °C
Decomposition temperature:	No data available
Self-igniting:	No data available
Flash point:	90°C
Danger of explosion:	Not applicable
Explosion limits: Lower:	No data available
Explosion limits: Upper:	No data available
Vapour pressure:	0.36hPa at 25°C
Density at 20 °C:	1.055g/cm ³ .
Relative density:	1.055
Vapour density:	3.4
Evaporation rate:	No data available
Solubility in / Miscibility with- water at 20 °C:	sparingly soluble
Partition coefficient:(n- octanol/water)	1.3
Viscosity:	0.42cP at 20°C
9.2 Other information	
Surface tension:	30.56 N/m at 30°C

SECTION 10: Stability and reactivity

10.1 Reactivity	No data available
10.2 Chemical stability	This chemical is stable under storage conditions.
10.3 Possibility of hazardous reactions	Explosive vapour/air mixtures may be formed.
10.4 Conditions to avoid	Incompatible materials. All heat sources, including direct sunlight.
10.5 Incompatible materials	Acids. Strong bases. Oxidizing agents. Reducing agents.

10.6 Hazardous decomposition products	Carbon oxides.
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SECTION 11: Toxicological information

11.1 Information on toxicological effects	
Acute Toxicity:	LD50 (Oral, Rat) : 15794 mg/kg LD50 (Dermal, Rabbit) : 16960 mg/kg LC50 (Inhalation Rat) : no data available.
Skin corrosion/Irritation:	No data available
Serious eye damage/irritation:	Causes serious eye irritation
Respiratory damage/irritation:	No data available
Ingestion:	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity:	No data available
Reproductive toxicity:	No data available
Specific target organ toxicity - single exposure:	No data available
Specific target organ toxicity - repeated exposure:	No data available
Aspiration hazard:	No data available
Signs and Symptoms of Exposure:	Refer section 2.3
11.2 Additional toxicological information	
Biodegradability:	Readily biodegradable

SECTION 12: Ecological information

12.1 Toxicity Aquatic toxicity:	LC50(fish): 15.4 mg/l(96hr) EC50(crustacea): 202.3 mg/l(48hr) EC50(algae): 508.2 mg/l(72hr)
12.2 Persistence and degradability:	readily biodegradable
12.3 Bioaccumulative potential:	No data available
12.4 Mobility in soil:	No data available
12.5 Other adverse effects:	No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Uncleaned packaging Recommendation:	dispose of in accordance with local hazardous waste regulations
Recommended cleansing agents:	Soap and water, Acetone, Isopropyl alcohol or ethanol.

SECTION 14: Transport information

14.1 UN-Number · ADR, ADN, IMDG, IATA:	Not regulated
14.2 UN proper shipping name · ADR, ADN, IMDG, IATA:	Not regulated
14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA :	Not regulated
14.4 Packing group · ADR, IMDG, IATA:	Not regulated
14.5 Environmental hazards:	No data available
14.6 Special precautions for user:	Handle responsibly.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Directive 2012/18/EU	Directive 2012/18/EU, under that this substance is not classified in listed substance.
Named dangerous substances:	This substance is not listed in the annex 1 to the directive.
15.2 Chemical safety assessment:	Chemical assessment has not been carried out

SECTION 16: Other information

The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of

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