

Revision number: 1 Revision date: 07/06/2018

1. IDENTIFICATION

Product name: Product code:

Product use: Restrictions on use:

Company: TCI America 9211 N. Harborgate Street Portland, OR 97203 U.S.A. Telephone: +1-800-423-8616 / +1-503-283-1681 Fax: +1-888-520-1075 / +1-503-283-1987 e-mail: sales-US@TCIchemicals.com www.TCIchemicals.com

2. HAZARD(S) IDENTIFICATION

2. HAZARD(S) IDENTIFICATION			
OSHA Haz Com: CFR 1910.1200: WHMIS 2015:	Acute Toxicity - Oral [Category 4] Skin Corrosion/Irritation [Category 2] Eye Damage/Irritation [Category 1] Specific Target Organ Toxicity (Single Exposure) [Category 3]		
Signal word:	Danger!		
Hazard Statement(s):	Harmful if swallowed Causes skin irritation Causes serious eye damage May cause respiratory irritation.		
Pictogram(s) or Symbol(s):			
Precautionary Statement(s): [Prevention]	Avoid breathing dust, fume, mist, vapors or spray. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wash hands and face thoroughly after handling. Wear		
[Response]	protective gloves, face protection. If swallowed: Call a poison center or doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell. 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 or doctor.		
[Storage] [Disposal]	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents and container in accordance with local, regional, national regulations (e.g. US: 40 CFR Part 261, EU:91/156/EEC, JP: Waste Disposal and Cleaning Act, etc.).		

Hazards not otherwise classified: [HNOC] Malonic Acid M0028

For laboratory research purposes. Not for drug or household use.

TCI AMERICA

SAFETY DATA SHEET

Emergency telephone number:

Chemical Emergencies: TCI America (8:00am - 5:00pm) PST +1-503-286-7624 Transportation Emergencies: Chemtrec 24-Hour +1-800-424-9300 (U.S.A.) +1-703-527-3887 (International) **Responsible department:** TCI America Environmental Health Safety and Security +1- 503-286-7624

Page 1 of 5

None.

TCI AMERICA

3. COMPOSITION/INFORMATION OI	N INGREDIENTS		
Substance/mixture:	Substance		
Components:	Substance Malonic Acid		
Percent:	>99.0%(T)		
CAS RN:	141-82-2		
Molecular Weight:	104.06		
Chemical Formula:	C3H4O4		
Synonyms:	Propanedioic Acid		
4. FIRST-AID MEASURES			
Description of first aid measures			
Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POIS		
	CENTER or doctor/physician if you feel unwell.		
Skin contact:	Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. 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.		
Ingestion:	Continue rinsing. If eye irritation persists: Get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.		
Symptoms/effects: Acute:	Pain. Redness.		
Delayed:	May have effects on the respiratory tract.		
Delayed:	may have enects on the respiratory fract.		
I ndication of any immediate medical atte Not available. Notes to physician: No data available	ention:		
5. FIRE-FIGHTING MEASURES			
Suitable extinguishing media:	Dry chemical, foam, water spray, carbon dioxide.		
Hazardous combustion products: Other specific hazards:	ucts: These products include: Carbon oxides Closed containers may explode from heat of a fire.		
Advice for firefighters:	Wear self-contained breathing apparatus if possible.		
6. ACCIDENTAL RELEASE MEASU	RES		
6. ACCIDENTAL RELEASE MEASUR Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.		
Personal precautions, protective equipment and emergency procedures: Environmental precautions:	Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc. Prevent product from entering drains.		
Personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment	Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.		
Personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and cleaning up:	Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc. Prevent product from entering drains. Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected		
Personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and cleaning up: 7. HANDLING AND STORAGE	Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc. Prevent product from entering drains. Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.		
Personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and cleaning up: 7. HANDLING AND STORAGE	Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc. Prevent product from entering drains. Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations. Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent		
Personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and cleaning up: 7. HANDLING AND STORAGE	Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc. Prevent product from entering drains. Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations. Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling.		
Personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and cleaning up: 7. HANDLING AND STORAGE	Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc. Prevent product from entering drains. Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations. Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a local exhaust if dust or aerosol will be generated.		
Personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and cleaning up: 7. HANDLING AND STORAGE Precautions for safe handling:	Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc. Prevent product from entering drains. Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations. Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing.		
Personal precautions, protective equipment and emergency procedures: Environmental precautions:	Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc. Prevent product from entering drains. Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations. Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing.		
Personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and cleaning up: 7. HANDLING AND STORAGE Precautions for safe handling: Conditions for safe storage, including an	Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc. Prevent product from entering drains. Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations. Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing. hy incompatibilities Keep container tightly closed. Store in a cool, dark and well-ventilated place.		
Personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and cleaning up: 7. HANDLING AND STORAGE Precautions for safe handling: Conditions for safe storage, including an	Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc. Prevent product from entering drains. Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations. Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing.		
Personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and cleaning up: 7. HANDLING AND STORAGE Precautions for safe handling: Conditions for safe storage, including an Storage conditions:	Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc. Prevent product from entering drains. Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations. Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing. by incompatibilities Keep container tightly closed. Store in a cool, dark and well-ventilated place. Store locked up. Store away from incompatible materials such as oxidizing agents. Comply with laws.		

Appropriate engineering controls:	Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust. Also install safety shower and eye bath.
Personal protective equipment	
Respiratory protection:	Dust respirator, self-contained breathing apparatus(SCBA), supplied air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.
Hand protection:	Impervious gloves.
Eye protection:	Safety goggles. A face-shield, if the situation requires.
Skin and body protection:	Impervious protective clothing. Protective boots, if the situation requires.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C):	Solid		
Form:	Crystal - Powder		
Colour:	White - Almost white		
Odour:	No data available		
Odor threshold:	No data available		
Odour threshold:	No data available		
Melting point/freezing point:	134°C (273°F)	pH:	No data available
Boiling point/range:	No data available	Vapour pressure:	No data available.
Decomposition temperature:	No data available	Vapour density:	No data available
Relative density:	No data available	Dynamic Viscosity:	No data available
Kinematic viscosity:	No data available		
Log Pow:	No data available	Evaporation rate(Butyl	No data available
		Acetate=1):	
Flash point:	No data available	Autoignition temperature:	580°C (1076°F)
Flammability(solid, gas):	No data available	Flammability or explosive limits:	
		Lower:	No data available
		Upper:	No data available
Solubility(ies):			
[Water]	Soluble (7.3g/100mL	, 20°C)	
[Other solvents]		· ,	
Soluble:	Ether, Alcohols, Pyrid	line, Propanol	
	11 (IT) (
10. STABILITY AND REACT	ΙVIIY		
Reactivity:	No data available		
Chemical stability:	Stable under proper of	conditions.	
Possibility of hazardous reaction		nas been reported.	
Incompatible materials:	Oxidizing agents, Bas		
Hazardous decomposition prod	lucts: Carbon dioxide, Carb	on monoxide	
11. TOXICOLOGICAL INFOR	RMATION		
RTECS Number: OO0175000			
Acute Toxicity:			
ipr-rat LD50:1500 mg/kg			
Skin corrosion/irritation:			
No data available			
Serious eye damage/irritation:			
No data available			
Respiratory or skin sensitizatio	n:		

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: mtr-rat-orl 10080 mg/kg/6W

Carcinogenicity: No data available

> IARC: No data available

Reproductive toxicity: No data available

Target organ(s): May cause respiratory irritation.

NTP: No data available OSHA: No data available **TCI AMERICA**

12. ECOLOGICAL INFORMATION

Ecotoxicity:			
Fish:	No data available		
Crustacea:	No data available		
Algae:	No data available		
5			
Persistence / degradability:	No data available		
Bioaccumulative potential(BCF):	No data available		
Mobility in soil			
Log Pow:	-0.91/-0.18		
Soil adsorption (Koc):	No data available		
Henry's Law (PaM ³ /mol):	No data available		
13. DISPOSAL CONSIDERATIONS			
	Desigle to preserve if people it is the generatoric responsibility to comply with Endered. State and		
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.		
14. TRANSPORT INFORMATION			
DOT (US)	Non-hazardous for transportation.		
ΙΑΤΑ	Non-hazardous for transportation.		
<u></u>			
IMDG	Non-hazardous for transportation.		

2

1

0

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:** Not Listed SARA 313: Not Listed SARA 302: State Regulations State Right-to-Know Massachusetts Not Listed **New Jersey** Not Listed Pennsylvania Not Listed California Proposition 65: Not Listed Other Information **NFPA Rating: HMIS Classification:** Health: 2 Health: Flammability: 1 Flammability: Instability: Physical: 0 International Inventories Canada: DSL On DSL EC-No: 205-503-0

16. OTHER INFORMATION

Revision date: 07/06/2018 Revision number: 1

TCI chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its affiliates or subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our SDS are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated SDS for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, face mask, fume hood). For proper handling and disposal, always comply with federal, state and local regulations.