An ISO 9001 : 2015 & GMP Certified Company 101, Aarkay Ruby Industrial Estate (1B), Opp Shree Narayan Industrial Estate, Chinchpada, Vasai East, Waliv, Maharashtra 401208. Tel : + 91 98200 41841 Email : <u>info@ottokemi.com</u> Web : <u>www.ottokemi.com</u>

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1. Product identifiers

Product name: Ketomalonic acid, monohydrate, 97% Product Code: K 1236 CAS NO: 560-27-0

1.2. Relevant identified uses of the substance or mixture and uses advised against Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet
Company identification
OTTO CHEMIE PVT LTD
101, Aarkay Ruby Industrial Estate(1B), Opp Shree Narayan Industrial Estate, Chinchpada, Vasai East, Waliv, Maharashtra 401208.
Email <u>info@ottokemi.com</u>

1.4. Emergency telephone number Phone no. : + 91 22 2207 0099 (9:00am - 6:00 pm).

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Skin irritation, (Category 2) Eye irritation, (Category 2) Specific target organ toxicity single exposure, (Category 3) 2.2 Label elements Labelling according Regulation (EC) No 1272/2008 Pictogram Signal Word Hazard Statements H315 H319 H335 **Precautionary Statements** P261 P305 + P351 + P338

Supplemental Hazard Statements 2.3 Other hazards - none

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Oxopropanedioic acid
	Mesoxalic acid
	Dihydroxymalonic acid
Formula	: C3H2O5 · H2O
Molecular weight	: 136,06 g/mol
CAS-No.	: 560-27-0
EC-No.	: 209-208-8

Component	Classification	Concentration
Concentration		
CAS-No. 560-27-0	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3;	<= 100 %
EC-No. 209-208-8	H315, H319, H335	

For the full text of the H-Statements mentioned in this Section, see Section 16.

- H315: Causes skin irritation. H319: Causes serious eye irritation.
- H319: Causes serious eye imitation. H335: May cause respiratory irritation.
- 1355. May cause respiratory initiatio

Warning

Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. none

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SECTION 4: First aid measures

4.1 Description of first-aid measures General advice Consult a physician. Show this material safety data sheet to the doctor in attendance. If inhaled If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. In case of skin contact Wash off with soap and plenty of water. Consult a physician. In case of eve contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. If swallowed Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. 4.2 Most important symptoms and effects, both acute and delayed The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11 4.3 Indication of any immediate medical attention and special treatment needed No data available **SECTION 5: Firefighting measures** 5.1 Extinguishing media Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture Carbon oxides 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary. 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 dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8. 6.2 Environmental precautions Do not let product enter drains. 6.3 Methods and materials for containment and cleaning up Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. 6.4 Reference to other sections For disposal see section 13. **SECTION 7: Handling and storage** 7.1 Precautions for safe handling Advice on safe handling Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Advice on protection against fire and explosion Provide appropriate exhaust ventilation at places where dust is formed Normal measures for preventive fire protection. Hygiene measures Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. For precautions see section 2.2. 7.2 Conditions for safe storage, including any incompatibilities Storage conditions Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Storage stabilityRecommended storage temperature -20 °Č

Storage class

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Storage class (TRGS 510): 13: Non Combustible Solids 7.3 Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment Eve/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

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 and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU)

2016/425 and the standard EN 374 derived from it.

Body Protection

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

9.1 Information on basic physical and chemical properties	I A I
a) Physical state	solid
b) Color	No data available
c) Odor	No data available
d) Melting	No data available
point/freezing point	
e) Initial boiling point	No data available
and boiling range	
f) Flammability (solid,	No data available
gas)	
g) Upper/lower	No data available
flammability or	
explosive limits	
h) Flash point	No data available
i) Autoignition	No data available
temperature	
j) Decomposition	No data available
temperature	
k) pH	No data available
I) Viscosity	Viscosity, kinematic: No data available
	Viscosity, dynamic: No data available
m) Water solubility	No data available
n) Partition coefficient:	No data available
n-octanol/water	
o) Vapor pressure	No data available
p) Density	No data available
Relative density	No data available
q) Relative vapor	No data available

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density

r) Particle characteristics s) Explosive properties t) Oxidizing properties 9.2 Other safety information No data available

No data available

No data available No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available
10.2 Chemical stability
Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions
No data available
10.4 Conditions to avoid
No data available
10.5 Incompatible materials
Strong oxidizing agents
10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals: Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg Inhalation LC50 Rat: > 50mg/L. Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH. Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant). Special Remarks on Toxicity to Animals: Not available. Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12: Ecological information

12.1 Toxicity No data available 12.2 Persistence and degradability No data available 12.3 Bioaccumulative potential No data available 12.4 Mobility in soil No data available 12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted 12.6 Endocrine disrupting properties No data available 12.7 Other adverse effects No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Contaminated packaging
Dispose of as unused product.

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SECTION 14: Transport information 14.1 UN number ADR/RID: -IMDG: -IATA: -14.2 UN proper shipping name ADR/RID : Not dangerous goods IMDG : Not dangerous goods IATA : Not dangerous goods 14.3 Transport hazard class(es) ADR/RID: -IMDG: -IATA: -14.4 Packaging group ADR/RID: -IMDG: -IATA: -14.5 Environmental hazards ADR/RID: no IMDG Marine pollutant: no IATA: no 14.6 Special precautions for user No data available Further information Not classified as dangerous in the meaning of transport regulations. **SECTION 15: Regulatory information** 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors Restrictions on the marketing and use of certain dangerous substances and preparations Regulation (EU) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals Candidate List of Substances of Very High Concern for Authorisation 15.2 Chemical Safety Assessment For this product a chemical safety assessment was not carried out **SECTION 16: Other Information**

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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