

Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 08/09/2023

Reviewed on 08/09/2023

1 Identification

- **Product identifier**
- **Trade name: As Reagent 2**
- **Catalogue number:** 00471270, 471270
- **CAS Number:**
141-82-2
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**
Tintometer Inc.
6456 Parkland Drive
Sarasota, FL 34243
USA
phone: (941) 756-6410
fax: (941) 727-9654
www.lovibond.us
Made in Germany
- **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Eye Damage 1 H318 Causes serious eye damage.

- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labeling:**
malonic acid
- **Hazard statements**
H318 Causes serious eye damage.
- **Precautionary statements**
P280 Wear 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.
P310 Immediately call a doctor.
- **Other hazards** No further relevant information available.

3 Composition/information on ingredients

- **Chemical characterization: Substances** organic acid
- **CAS No. Description**
CAS: 141-82-2 malonic acid

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 08/09/2023

Reviewed on 08/09/2023

Trade name: As Reagent 2· **EC number:** 205-503-0

(Contd. of page 1)

4 First-aid measures

Description of first aid measures

- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes (at least 15 min) under running water.
Call a doctor immediately.
- **After swallowing:**
Rinse out mouth and then drink 1-2 glasses of water.
Consult a doctor.
- **Most important symptoms and effects, both acute and delayed** strong eye irritation
- **Danger:** Risk of serious damage to eyes.
- **Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Water, Carbon dioxide (CO₂), Foam, Fire-extinguishing powder
- **For safety reasons unsuitable extinguishing agents:**
For this substance / mixture no limitations of extinguishing agents are given.
- **Special hazards arising from the substance or mixture**
Can burn in fire.
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
acetic acid vapours
Carbon monoxide (CO) and carbon dioxide (CO₂)
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
- **Advice for non-emergency personnel:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Avoid breathing dust.
- **Advice for emergency responders:** Protective equipment: see section 8
- **Environmental precautions:** Do not allow product to reach sewage system or any water course.
- **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Pick up mechanically.
Dispose contaminated material as waste according to section 13.
- **Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling**
- **Advice on safe handling:** Prevent formation of dust.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 08/09/2023

Reviewed on 08/09/2023

Trade name: **As Reagent 2**

(Contd. of page 2)

- **Hygiene measures:**
Avoid contact with the eyes.
Take off immediately all contaminated clothing.
Wash hands before breaks and at the end of work.
Do not eat, drink or smoke when using this product.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** see chapter 10
- **Further information about storage conditions:**
Protect from heat and direct sunlight.
Store in cool, dry conditions in well sealed receptacles.
Protect from exposure to the light.
Protect from humidity and water.
This product is hygroscopic.
- **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Engineering measures:**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
See item 7.
- **Personal protective equipment:**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Breathing equipment:** Use respiratory protective device against the effects of fume/dust/aerosol.
- **Recommended filter device for short term use:** Filter P2
- **Protection of hands:**
Protective gloves
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**
Breakthrough time: > 480 min
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**
Tightly sealed goggles
Use protective goggles that have been tested and approved in accordance with government standards (like NIOSH).
- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment:**
Do not allow product to reach sewage system or any water course.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **Appearance:**
- **Form / Physical state:** Powder
- **Color:** White
- **Odor:** Odorless
- **Odor threshold:** Not applicable.
- **pH-value (16 g/l) at 20°C (68°F):** 1.4
- **Melting point/freezing point:** >135°C (>275°F)
Decomposition
- **Initial boiling point and boiling range:** Prior to or during boiling decomposition occurs.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 08/09/2023

Reviewed on 08/09/2023

Trade name: As Reagent 2

(Contd. of page 3)

· Flash point:	157°C (314.6°F) (c.c.)
· Flammability (solid, gas):	Can burn in fire.
· Auto igniting:	Not applicable (solid).
· Decomposition temperature:	> 140°C (> 284°F)
· Auto-ignition temperature:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard. The following applies in general to flammable organic substances / preparations: Dust explosion possible if in powder or granular form (fine distribution), mixed with air.
· Flammability or explosive limits:	
Lower:	Not determined.
Upper:	Not applicable (solid).
· Oxidizing properties:	none
· Vapor Pressure at 25°C (77°F):	0.002 hPa (0 mm Hg)
· Density at 20°C (68°F):	1.6 g/cm ³ (13.35 lbs/gal)
· Relative density:	Not determined.
· Vapor density:	Not applicable.
· Evaporation rate:	Not applicable.
· Solubility(ies)	
· Water at 20°C (68°F):	766 g/l Soluble.
· Partition coefficient (n-octanol/water):	-0.81
· Viscosity:	
· Kinematic:	Not applicable (solid).
· Other information	
· Solids content:	100 %

10 Stability and reactivity

- **Reactivity** Dust can combine with air to form an explosive mixture.
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**
Aqueous solution reacts acidic.
Aqueous solution reacts with metals.
Violent reactions with strong alkalis and oxidizing agents.
- **Conditions to avoid** Strong heating (decomposition)
- **Incompatible materials:**
aluminum
Iron
- **Hazardous decomposition products:** see section 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:

CAS: 141-82-2 malonic acid

Oral	LD50	2750 mg/kg (rat) (OECD 401) (Registrant, ECHA)
Inhalative	LC50	>8.9 mg/l/1h (rat) (RTECS, no deaths at this concentration)

- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:**
Causes serious eye damage.
Risk of corneal clouding.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 08/09/2023

Reviewed on 08/09/2023

Trade name: As Reagent 2

(Contd. of page 4)

· Information on components:		
CAS: 141-82-2 malonic acid		
Irritation of skin	OECD 404	/4h (rabbit: slight irritation) (US DOT) ECHA, Registrant: Malonic acid is mildly irritating to rabbit skin, but not sufficient for CLP classification.
Irritation of eyes	OECD 492	(rabbit: irritation) (RTECS) (human) (Reconstructed human Cornea-like Epithelium (RhCE) test method) ECHA, Registrant: A test item is considered to be irritant to the eye (i.e. would require labelling as either GHS 1 or 2) if the eye model viability after exposure and post-treatment incubation is ≤ 60%. The percentage of viability obtained with the test item Malonic Acid was 3.815%, therefore it has to be considered as at least irritant to the eye. The current assay is not intended to differentiate between GHS class 1 and GHS class 2 (degree of stromal damage). In view of the low percentage viability, obtained in the test; and in comparison with other short chain dicarboxylic acids for which in vivo data is available, malonic acid should be classified as Eye Damage 1

· **Sensitization:** Based on available data, the classification criteria are not met.

· Information on components:		
CAS: 141-82-2 malonic acid		
Sensitization	OECD 429	(negative) (LLNA-Test)

· **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)		
Substance is not listed.		

· NTP (National Toxicology Program)		
Substance is not listed.		

· OSHA-Ca (Occupational Safety & Health Administration)		
Substance is not listed.		

· **Other information:** see section 8 / 15

· **Synergistic Products:** None

· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):**

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

· **Carcinogenicity** Based on available data, the classification criteria are not met.

· **Reproductive toxicity** Based on available data, the classification criteria are not met.

· **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.

· **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

· Information on components:		
CAS: 141-82-2 malonic acid		
OECD 471	(guinea pig: negative) (Bacterial Reverse Mutation Test - Ames test) (Salmonella typhimurium, National Toxicology Program)	

· Additional toxicological information:		
CAS: 141-82-2 malonic acid		
(source: GESTIS) Information for the doctor: According to general information and animal test results, a local irritative effect of the acid, which is similar to that of oxalic acid, must be taken into account. The systemic effect seems to be small. Probable symptoms of acute poisoning were derived from this: Eye: time-dependent conjunctivitis -> corneal damage Skin: minor to moderate irritation; absorptive-toxic effects unlikely. Inhalation: Burning in the nose and throat, coughing, in extreme cases edema of the larynx or lungs Ingestion: Irritation (possibly chemical burns) in the throat (risk of glottic oedema), esophagus, stomach; Gastrointestinal complaints -> cardiovascular reactions (risk of collapse); absorptive effects Absorption: insufficient data; possibly CNS affection (in animal experiments: spasms, shortness of breath).		

· **Other information** Other dangerous properties can not be excluded.

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 08/09/2023

Reviewed on 08/09/2023

Trade name: **As Reagent 2**

(Contd. of page 5)

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

CAS: 141-82-2 malonic acid

EC50 275 mg/l/48h (Daphnia magna)
(ECOTOX)

LC50 150 mg/l (bluegill) (24h)
(ECOTOX)

- **Persistence and degradability** No further relevant information available.

- **Bioaccumulative potential**

Pow = n-octanol/wasser partition coefficient

log Pow < 1 = Does not accumulate in organisms.

CAS: 141-82-2 malonic acid

log Pow -0.18 (.) (experimental)

- **Mobility in soil** No further relevant information available.

- **Other adverse effects** Avoid transfer into the environment.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to hazardous waste disposers.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**

- **DOT, IMDG, IATA** none

- **UN proper shipping name**

- **DOT, IMDG, IATA** none

- **Transport hazard class(es)**

- **DOT, IMDG, IATA**

- **Class** none

- **Packing group**

- **DOT, IMDG, IATA** none

- **Environmental hazards:**

Not applicable.

- **Special precautions for user**

Not applicable.

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

- **Transport/Additional information:**

Not dangerous according to the above specifications.

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **Sara**

- **Section 355 (Extremely hazardous substances):**

Substance is not listed.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 08/09/2023

Reviewed on 08/09/2023

Trade name: **As Reagent 2**

(Contd. of page 6)

· Section 313 (Specific toxic chemical listings):
Substance is not listed.
· TSCA (Toxic Substances Control Act):
ACTIVE
· Hazardous Air Pollutants
Substance is not listed.
· Proposition 65
· Chemicals known to cause cancer:
Substance is not listed.
· Chemicals known to cause reproductive toxicity for females:
Substance is not listed.
· Chemicals known to cause reproductive toxicity for males:
Substance is not listed.
· Chemicals known to cause developmental toxicity:
Substance is not listed.
· New Jersey Right-to-Know List:
Substance is not listed.
· New Jersey Special Hazardous Substance List:
Substance is not listed.
· Pennsylvania Right-to-Know List:
Substance is not listed.
· Pennsylvania Special Hazardous Substance List:
Substance is not listed.
· EPA (Environmental Protection Agency)
Substance is not listed.
· NIOSH-Ca (National Institute for Occupational Safety and Health)
Substance is not listed.

- **Information about limitation of use:** Not required.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Version number / date of revision:** 1 / 08/09/2023
- **Abbreviations and acronyms:**
 - OECD: Organisation for Economic Co-operation and Development
 - STOT: specific target organ toxicity
 - SE: single exposure
 - RE: repeated exposure
 - EC50: half maximal effective concentration
 - IC50: half maximal inhibitory concentration
 - NOEL or NOEC: No Observed Effect Level or Concentration
 - ACGIH® - American Conference of Governmental Industrial Hygienists
 - A1 - Confirmed human carcinogen
 - A2 - Suspected human carcinogen
 - A3 - Confirmed animal carcinogen with unknown relevance to humans
 - A4 - Not classifiable as a human carcinogen
 - A5 - Not suspected as a human carcinogen
 - IARC - International Agency for Research on Cancer
 - Group 1 - Carcinogenic to humans
 - Group 2A - Probably carcinogenic to humans
 - Group 2B - Possibly carcinogenic to humans
 - Group 3 - Not classifiable as to carcinogenicity to humans
 - Group 4 - Probably not carcinogenic to humans
 - NTP - National Toxicology Program, U.S. Department of Health and Human Services
 - Group K - Known to be Human Carcinogens
 - Group R - Reasonably Anticipated to be Human Carcinogens
 - IMDG: International Maritime Code for Dangerous Goods
 - DOT: US Department of Transportation
 - IATA: International Air Transport Association

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 08/09/2023

Reviewed on 08/09/2023

Trade name: As Reagent 2

(Contd. of page 7)

EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Eye Damage 1: Serious eye damage/eye irritation – Category 1

Sources

Data arise from safety data sheets, reference works and literature.

ECHA: European CHemicals Agency <http://echa.europa.eu>

GESTIS- Stoffdatenbank (Substance Database, Germany)

RTECS (Registry of Toxic Effects of Chemical Substances)

US
