

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

Printing date 11/04/2020

Reviewed on 11/04/2020

1 Identification

- **Product identifier**
- **Trade name: As 2 Reagent**
- **Catalogue number:** 400720
- **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**



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

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



GHS07

- **Signal word** Warning
- **Hazard statements**
H319 Causes serious eye irritation.
- **Precautionary statements**
P260 Do not breathe dust.
P280 Wear protective gloves / eye 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.
P311 Call a doctor.
- **Other hazards** No further relevant information available.

3 Composition/information on ingredients

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

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- **Identification number(s)**
- **EC number:** 205-503-0

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 rinse with plenty of water.
- **After eye contact:** Rinse opened eye for several minutes (at least 15 min) under running water. Then consult a doctor.
- **After swallowing:**
 - Rinse out mouth and then drink 1-2 glasses of water.
 - Seek medical treatment.
- **Most important symptoms and effects, both acute and delayed irritations**
- **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 inhalation of 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 item 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:** No special precautions are necessary if used correctly.
- **Hygiene measures:**
 - Avoid contact with the eyes.

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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**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 - Store in cool, dry conditions in well sealed receptacles.
 - Protect from heat and direct sunlight.
 - 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**
 - Value for the permeation: Level ≤ 1 (10 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:** Safety glasses
- **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 (10 g/l) at 20°C (68°F): 1.4 | |
| · Melting point/freezing point: 132-135°C (269.6-275°F) | |
| · Initial boiling point and boiling range: Not applicable.
Decomposition | |
| · Flash point: 157°C (314.6°F) (c.c.) | |

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· Flammability (solid, gas):	Not determined.
· Ignition temperature:	Not determined.
· Decomposition temperature:	> 140°C (> 284°F)
· Auto-ignition temperature:	Product is not self-igniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air mixtures is possible. 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 determined.
· Oxidizing properties:	none
· Vapor Pressure at 20°C (68°F):	0.002 hPa (0 mm Hg)
· Density at 20°C (68°F):	1.62 g/cm ³ (13.52 lbs/gal)
· Relative density:	Not determined.
· Vapor density:	Not applicable.
· Evaporation rate:	Not applicable.
· Solubility(ies)	
Water at 22°C (71.6°F):	1390 g/l
· Partition coefficient (n-octanol/water):	-0.81 log Pow
· Viscosity:	Not applicable.
· Organic solvents:	0.0 %
· Solids content:	100.0 %
· Other information	No further relevant information available.

*10 Stability and reactivity

- **Reactivity**
Risk of dust explosion if enriched with fine dust in the presence of air.
Dust can combine with air to form an explosive mixture.
- **Chemical stability**
Stable at ambient temperature (room temperature).
sensitive to moisture
- **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.

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- **on the eye:** Causes serious eye irritation.

· Information on components:		
CAS: 141-82-2 malonic acid		
Irritation of skin	OECD 404	(rabbit: slight irritation) (24h)
Irritation of eyes	OECD 405	(rabbit: irritation) (RTECS)

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

- **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 (carcinogenicity, 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)

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.

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- **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.	
· 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.	

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· EPA (Environmental Protection Agency)
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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.

- **Date of preparation / last revision** 11/04/2020 / 7
- **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
 - 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 Irrit. 2A: Serious eye damage/eye irritation – Category 2A
- **Sources**
 - Data arise from safety data sheets, reference works and literature.
 - ECHA: European Chemicals Agency <http://echa.europa.eu>
 - ECOTOX Database
 - RTECS (Registry of Toxic Effects of Chemical Substances)
- *** Data compared to the previous version altered.**