



Safety Data Sheet

According to Regulation (EC) No. 1907/2006 OSHA Regulation 29 CFR 1910.1200 Canadian Regulation SOR/88-66

Revision Date:2010-12-01Reason for Revision:Regulation (EC) No. 1272/2008 Compliance

| After Inhalation: After Skin Contac | Rinse out with ple | nty of water with | | | | | | |
|--|--|-------------------|----------------------------|--|---------------------------|--|--|--|
| After Inhalation: After Skin Contac | | | | n. Call in ophthalmologist. | | | | |
| After Inhalation: | t: Wash affected are | a with picity of | | After Eye Contact: Rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist. | | | | |
| | After Skin Contact: Wash affected area with plenty of water. Remove contaminated clothing. | | | | | | | |
| | Remove to fresh a | air. | | | | | | |
| SECTION 4: F | IRST AID MEASUR | ES | | | | | | |
| | | | Skin Irrit. 2 STOT SE 3 | R: 36 | | | | |
| L-(+)-Tartaric acid | 201-766-0 | 87-69-4 | Eye Irrit. 2 | H315, H319, H335 | - | | | |
| Component: | EC No: | CAS No: | Hazard Class: | Phrases: | Concentration: | | | |
| SECTION 3: | OMPOSITION AND | COMPONEI | NT INFORMATION | | | | | |
| S-phrases: | 24/25: Avoid contact wit | th skin and eyes | i. | | | | | |
| R-phrases: | 36: Irritating to eyes. | | | | | | | |
| According to Direct Symbol: | tives 67/548/EEC and 19 Xi: Irritant | 999/45/EC: | | | | | | |
| | easy to do. Continue rin | sing. | | | | | | |
| Precaution Statements: | P261: Avoid breathing c P305+P351+P338: IF IN | | | everal minutes. Remove contac | ct lenses, if present and | | | |
| | H335: May cause respir | atory irritation. | | | | | | |
| Hazard Statements: | H315: Causes skin irrita H319: Causes serious e | | | | | | | |
| | \sim | | | | | | | |
| | | | | | | | | |
| r iciografiis: | | | | | | | | |
| Signal Word: Pictograms: | Warning | | | | | | | |
| | Specific Target Organ T | | xposure (Category 3) | | | | | |
| | : Eye Irritation (Category Skin Irritation (Category | 2) | | | | | | |
| 0, | lation (EC) No. 1272/200 | 8: | | | | | | |
| SECTION 2: F Irritating to eyes. | IAZARD IDENTIFIC | 4 I ION | | | | | | |
| | | | | | | | | |
| E-mail Addres | S: | | | | tech@hannainst.co | | | |
| | mergency Contact | Information | : | +1-703-527-3887 (Chemtrec 24Hr. Emergenc | | | | |
| Technical Service Contact Information: USA Emergency Contact Information: | | | | 1-800-426-6287 (8:30AM - 5:00PM E +1-401-766-4260 (8:30AM - 5:00PM E 1-800-424-9300 (Chemtrec 24Hr. Emergenc | | | | |
| | | | | | | | | |
| Technical Serv | vice Contact Inform | ation | 504 Fai | k East Dr, Woonsocket, | | | | |
| Company Info | rmation (USA): | | 594 Do | k Faat Dr. Waanaakat | Hanna Instruments, Ir | | | |
| | For Chemical Analysis | | | | | | | |
| | For Chamical Analysia | | | | | | | |
| Application: | : HI 70402 L-(+)-Tartaric | acid | | | | | | |



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<u>SECTION 5:</u> FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Powder, Foam, Spray Water

Special Risks:

Combustible. Development of hazardous combustion gases or vapours possible in the event of fire.

Special Protective Equipment:

Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

Additional Information:

Cool container with spray water from a safe distance. Contain escaping vapours with water. Prevent fire residues and contaminated fire fighting water from entering surface water or groundwater.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Avoid formation of dusts. Do not inhale dusts. Ensure supply of fresh air in enclosed rooms. *Environmental Precautions:*

NA

Additional Notes:

Take up dry. Clean up affected area and dispose according to local regulation. Avoid generation of dusts.

SECTION 7: HANDLING AND STORAGE

Handling:

Storage:

No further requirements.

Store at room temperature (+15 to +25 $^{\circ}\text{C}$ recommended). Tightly closed. Dry.

<u>SECTION 8:</u> EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering:

Maintain general industrial hygiene practice.

Personal Protective Equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

| Respiratory Protection: | Protective Gloves: | Eye Protection: |
|---|--------------------|----------------------|
| Required when dusts are generated. Work under hood. | Rubber or plastic | Goggles or face mask |
| | | |

Industrial Hygiene:

Change contaminated clothing. Application of skin-protective barrier cream recommended. Wash hands after working with substance.

| <u>SECTION 9:</u> | PHYSICAL/CHEMICAL PROPERTIES | | | | |
|-------------------|------------------------------|-----------------------|----------|------------------|------------------|
| Appearance: | White powder | Odor: | Odorless | Density at 20 °C | : 1.76 g/cm³ |
| Melting Point: | 169 °C | Boiling Point: | NA | Solubility: | 1390 g/L (20 °C) |
| pH at 20 °C: | 1.6 @ 100 g/L (25°C) | Explosion Limit: | ND | Flash Point: | 210 °C |
| Thermal Decom | <i>р.:</i> > 170 °С | | | | |



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SECTION 10: STABILITY AND REACTIVITY

Conditions to be Avoided:

Heating

Hazardous Polymerization:

Will not occur.

Further Information:

Stable in the recommended storage conditions.

Hazardous Decomposition Products: In the event of fire: See section 5.

Substances to be Avoided:

Fluorine, silver, Metals

SECTION 11: TOXICOLOGICAL INFORMATION

Product Toxicity

Acute toxicity: LDLo (oral, rat): 7500 mg/kg. Subacute to chronic toxicity Sensitization: Sensitization test (guinea pig): No sensitizing effect. Bacterial mutagenicity: Ames test: negative.

Potential Health Effects:

| Inhalation: | In high doses: slight irritation symptoms. |
|---------------|--|
| Skin Contact: | Slight irritations. |
| Eye Contact: | Irritations. |
| Ingestion: | Diarrhea. |
| Further Data: | No toxic effects are to be expected when the product is handled with the usual care when dealing with chemicals. |

Component Toxicity

Acute Toxicity:

Not Available

Chronic Toxicity: Not Available

Additional Data:

Not Available

SECTION 12: ECOLOGICAL INFORMATION

Biologic degradation:
Readily biodegradable (reduction: DOC >70 %; BOD >60 %; BOD5 to COD >50 %).
Behavior in environmental compartments:
log p(o/w): -0.76 (calculated).
No bioaccumulation is to be expected (log P(o/w <1). Ecotoxic effects:
Biological effects:
Fish toxicity: C.auratus LCO: 200 mg/L.
Daphnia toxicity: Daphnia EC50: 135 mg/L /24 h.
Further ecologic data:
BOD 56 % from TOD /5 d.
COD 98 % from TOD.
TOD: 0.533 g/g. *Further Data:* No ecological problems are to be expected when the product is handled and used with due care and attention.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Chemical residues are generally classified as special waste and thus covered by local regulations. Contact local authorities or disposal companies for advice. Handle contaminated packaging in the same way as the substance itself.



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| SECTION 14: TRANSPORTATION INFOR | MATION | | | | |
|---|--------------------------------------|---------------------|---|--|--|
| Land: | Sea: | | Air: | | |
| Not subject to transport regulations | Not subject to transport regulations | | Not subject to transport regulations | | |
| | | | | | |
| SECTION 15: REGULATORY INFORMAT | ïON | | | | |
| Complies with European Regulations (EC) No. 1907/ Complies with European Council Directives 67/548/E Complies with OSHA Regulation 29 CFR 1910.1200. Complies with Canadian Regulation SOR/88-66 | EC and 1999/45/EC. | | | | |
| SECTION 16: OTHER INFORMATION | | | | | |
| Text of phrases under Section 3 | Rev | ision Information | | | |
| R36: Irritating to eyes. H315: Causes skin irritation. | Rev | ision Date: | 2010-12-01 | | |
| H315: Causes skin inflation. H319: Causes serious eye irritation. | Sup | ersedes edition of: | 2009-06-10 | | |
| H335: May cause respiratory irritation. | Rea | son for revision: | Regulation (EC) No. 1272/2008 Compliance | | |
| | Leg | end | NA: Not Applicable ND: Not Determined | | |
| THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO THE | | | | | |

APPROPRIATE SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF THE PROPERTIES OF THE PRODUCT.