

Safety Data Sheet

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

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

SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

Product Name: Chloroform

Application: Determination of Detergents (anionic surfactants)
in Water Samples

Company Information (USA):

Hanna Instruments, Inc.
584 Park East Dr, Woonsocket, Rhode Island, USA 02895

Technical Service Contact Information:

1-800-426-6287 (8:30AM - 5:00PM ET)
+1-401-766-4260 (8:30AM - 5:00PM ET)

USA Emergency Contact Information:

1-800-424-9300 (Chemtrec 24Hr. Emergency)

International Emergency Contact Information:

+1-703-527-3887 (Chemtrec 24Hr. Emergency)

E-mail Address:

tech@hannainst.com

SECTION 2: HAZARD IDENTIFICATION

Harmful if swallowed. Irritating to skin. Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

According to Regulation (EC) No. 1272/2008:

Classification: Acute Toxicity, Oral (Category 4)
Carcinogen (Category 2)
Skin Irritation (Category 2)
Specific Target Organ Toxicity, Repeated Exposure (Category 2)

Signal Word: **Warning**

Pictograms:



Hazard Statements: H302: Harmful if swallowed.
H315: Causes skin irritation.
H351: Suspected of causing cancer.
H373: May cause damage to organs through prolonged or repeated exposure.

Precaution Statements: P281: Use personal protective equipment as required.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P314: Get medical advice/attention if you feel unwell.

According to Directives 67/548/EEC and 1999/45/EC:

Symbol: Xn: Harmful

R-phrases: 22-38-40-48/20/22: Harmful if swallowed. Irritating to skin. Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

S-phrases: 36/37: Wear suitable protective clothing and gloves.

SECTION 3: COMPOSITION AND COMPONENT INFORMATION

Component:	EC No:	CAS No:	Hazard Class:	Phrases:	Concentration:
Chloroform	200-663-8	67-66-3	Acute Tox. 4 Carc. 2 STOT RE 2 Skin Irrit. 2 Xn, Xi, Carc. Cat. 3	H302, H315, H351, H373 R: 22-38-40-48/20/22	-

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- After Inhalation:** Remove to fresh air. If necessary, apply mouth-to-mouth resuscitation or mechanical ventilation. Keep airways free.
- After Skin Contact:** Wash affected area with plenty of water. Remove contaminated clothing.
- After Eye Contact:** Rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.
- After Swallowing:** Caution if victim vomits. Risk of aspiration! Laxative: Sodium sulfate (1 tablespoon/1/4 l water). Subsequently administer: activated charcoal (20 - 40 g in 10% slurry). Call in physician. Indications for the doctor: Gastric lavage.
- General Information:** Not available

SECTION 5: FIRE-FIGHTING MEASURES

- Suitable Extinguishing Media:**
Water spray, Carbon Dioxide, Dry Chemical Powder, Appropriate Foam.
- Special Risks:**
Non-combustible. Development of hazardous combustion gases or vapors possible in the event of fire. The following may develop in event of fire:
Hydrochloric Acid
- Special Protective Equipment:**
Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.
- Additional Information:**
Prevent fire-fighting water from entering surface water or groundwater.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- Personal Precautions:**
Do not inhale vapors/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms. Work under hood.
- Environmental Precautions:**
Do not allow to enter the sewerage system.
- Additional Notes:**
Take up with liquid-absorbent material. Clean up affected area and dispose according to local regulation.

SECTION 7: HANDLING AND STORAGE

- | | |
|---|---|
| Handling:
Avoid generation of vapors/aerosols. Do not inhale substance. | Storage:
Tightly closed. In a well-ventilated place at +15 to +25 °C. |
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SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Type	Value	Source	Type	Value	Source
Chloroform					
TWA (8hr)	10 mg/m ³	Belgium	TWA (8hr)	49 mg/m ³	Canada (Ontario)
TWA (8hr)	24.4 mg/m ³	Canada (Quebec)	TWA (8hr)	10 mg/m ³	France
TWA (8hr)	2.5 mg/m ³	Germany	TWA (8hr)	50 mg/m ³	Greece
TWA (8hr)	10 mg/m ³	Hungary	TWA (8hr)	10 mg/m ³	Italy
TWA (8hr)	5 mg/m ³	Netherlands	TWA (8hr)	8 mg/m ³	Poland
TWA (8hr)	10 ppm	Portugal	TWA (8hr)	10 mg/m ³	Romania
TWA (8hr)	10 mg/m ³	Spain	TWA (8hr)	9.9 mg/m ³	UK
TWA (8hr)	10 ppm	USA (ACGIH)	TWA (8hr)	50 ppm	USA (OSHA)

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:

Required when vapors/aerosols are generated. Work under hood.

Protective Gloves:

Rubber or plastic

Eye Protection:

Goggles or face mask

Industrial Hygiene:

Change contaminated clothing. Wash hands after working with substance.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

Appearance:	Colorless liquid	Odor:	Characteristic	Density at 20 °C:	1.48 g/cm ³
Melting Point:	-63 °C	Boiling Point:	61 °C	Solubility:	8 g/L (20 °C)
pH at 20 °C:	NA	Explosion Limit:	NA	Flash Point:	NA
Thermal Decomp.:	NA				

SECTION 10: STABILITY AND REACTIVITY

Conditions to be Avoided:

Heating

Hazardous Polymerization:

Will not occur.

Further Information:

Heat-sensitive, light-sensitive.

Hazardous Decomposition Products:

In the event of fire: See section 5.

Substances to be Avoided:

Alkali metals, alkaline earth metals, metals (in powder form), peroxi compounds, fluorine, alcoholates, strong alkalis, ketones / alkalis, alkali hydroxides / alcohols, organic nitrocompounds, alkali amides, oxygen, oxygen / alkalis, nitrogen oxides, nonmetallic hydrogen compounds, bis(dimethylamino)dimethyl tin, amines, ammonia, alcohols / strong alkalis, phosphines

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SECTION 11: TOXICOLOGICAL INFORMATION

Product Toxicity

Specific symptoms in animal studies:
Eye irritation test (rabbit): Slight irritations.
Skin irritation test (rabbit): Slight irritations.
Subacute to chronic toxicity
The carcinogenic potential requires further clarification.
Bacterial mutagenicity: Ames test: negative.

Potential Health Effects:

Inhalation: Coughing, dyspnoea, absorption.

Skin Contact: Irritations. Drying-out effect resulting in rough and chapped skin. Danger of skin absorption.

Eye Contact: Slight irritations.

Ingestion: Nausea, vomiting, absorption. After accidental swallowing the substance may pose a risk of aspiration. Passage into the lung (vomiting!) can result in a condition resembling pneumonia (chemical pneumonitis).

Further Data: Systemic effects:
After absorption: agitation, spasms, narcosis.
After long-term exposure to the chemical: drop in blood pressure, headache, ataxia (impaired locomotor coordination), gastrointestinal complaints, cardiovascular disorders.
Damage of: liver, kidneys, heart.
Effect potentiated by: ethanol. The product should be handled with the usual care when dealing with chemicals.

Component Toxicity

Acute Toxicity:

Chloroform

LC50: Inhalation - Rat - 47702 mg/m³

LD50: Oral - Rat - 695 mg/kg

Chronic Toxicity:

Chloroform

NTP: Reasonably anticipated to be carcinogenic to humans

IARC Group 2B: Possibly carcinogenic to humans

Additional Data:

Not Available

SECTION 12: ECOLOGICAL INFORMATION

Biologic degradation: Not degradable in water.
Behavior in environmental compartments:
Distribution: log p(o/w): 2 (25 °C) (experimental);
No appreciable bioaccumulation potential is to be expected (log P(o/w) 1-3).
Distribution preferentially in air. Henry constant: 14084 Pa*m³/mol (experimental).
Ecotoxic effects: Biological effects:
Harmful effect on aquatic organisms. Endangers drinking-water supplies if allowed to enter soil and/or waters in large quantities.
Fish toxicity: L.macrochirus LC50: 18 mg/L /96 h.
Daphnia toxicity: Daphnia magna EC50: 79 mg/L /48 h.
Bacterial toxicity: activated sludge EC50: 1010 mg/L /3 h; Maximum permissible toxic concentration:
Ps.putida EC5: 125 mg/L /16 h.
Algeal toxicity: Maximum permissible toxic concentration: Sc.quadricauda IC5: 1100 mg/L /8 d.
Protozoa: Maximum permissible toxic concentration: E.sulcatum EC5: >6560 mg/L /72 h.

Further Data: Do not allow to enter waters, waste waters, or soil!

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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UN-No.: 3316
Name : CHEMICAL KIT**Sea:**IMDG: class 9/UN 3316/PG III
Name: CHEMICAL KIT
Marine Pollutant: No**Air:**ICAO/IATA: 9/UN 3316/PG III
Name: CHEMICAL KIT

Transport data applies to the COMPLETE KIT!

SECTION 15: REGULATORY INFORMATIONComplies with European Regulations (EC) No. 1907/2006 and No. 1272/2008.
Complies with European Council Directives 67/548/EEC and 1999/45/EC.
Complies with OSHA Regulation 29 CFR 1910.1200.
Complies with Canadian Regulation SOR/88-66**SECTION 16: OTHER INFORMATION*****Text of phrases under Section 3***R22: Harmful if swallowed.
R38: Irritating to skin.
R40: Limited evidence of a carcinogenic effect.
R48/20/22: Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
H302: Harmful if swallowed.
H315: Causes skin irritation.
H351: Suspected of causing cancer.
H373: May cause damage to organs through prolonged or repeated exposure.***Revision Information*****Revision Date:** 2010-12-01
Supersedes edition of: 2009-06-10
Reason for revision: Regulation (EC) No. 1272/2008 Compliance***Legend***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.