CRM-hATX

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2024 and the Hazardous Products Regulations (HPR) WHMIS 2022
Issue date: 2024-12-18 Revision date: 2026-07-22 Version: 2.0

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture

Product name : CRM-hATX

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Calibration Solution Certified Reference Material for Homoanatoxin-a, for laboratory use only

1.4. Supplier's details

National Research Council Canada
1411 Oxford Street
Halifax, Nova Scotia, Canada B3H 3Z1
T 1-902-426-8281

National Research Council Canada | Conseil national de recherches Canada

1.5. Emergency phone number

Emergency number : Infotrac:
Within North America 1-800-535-5053
International +1-352-323-3500

SECTION 2 Hazard identification

2.1. Classification of the substance or mixture

GHS classification

Flammable liquids, Category 4
Acute toxicity (oral), Category 4
Reproductive toxicity, Category 1B
Specific target organ toxicity, Single exposure, Category 2

2.2. Label elements

GHS labelling

Hazard pictograms (GHS) :

Signal word (GHS) : Danger

Hazard statements (GHS) : Combustible liquid
Harmful if swallowed
May damage fertility or the unborn child.

May cause damage to organs (optic nerve, central nervous system) (if swallowed).

Precautionary statements (GHS) : Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Do not breathe dust, fume, gas, mist, vapours, spray.
Wash hands, forearms and face thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.
If exposed or concerned: Call a poison center or doctor.
If swallowed: Call a poison center or doctor if you feel unwell.
Rinse mouth.
In case of fire: Use appropriate media to extinguish.
Store in a well-ventilated place.
Store locked up.
Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and international regulations.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	% by weight
Water	AQUA AQUA	CAS-No.: 7732-18-5	92.75
Methanol	Methanol ; Methyl alcohol METHYL ALCOHOL / Wood alcohol / Methyl hydroxide / Carbinol / Methyl alcohol	CAS-No.: 67-56-1	7.24

Name	Chemical name / Synonyms	Product identifier	% by weight
Acetic acid	Acetic acid Acetic acid, glacial / Ethanoic acid / Ethylic acid / Vinegar acid / ACETIC ACID / Acetic acid solution / Acetic acid ...% / Acetic acid ... %	CAS-No.: 64-19-7	0.0107
Homoanatoxin-a (hATX)	Homoanatoxin-a (hATX)	CAS-No.: 142926-86-1	0.00051

SECTION 4 First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : IF exposed or concerned: Call a POISON CENTER/doctor.

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice or attention if you feel unwell.

First-aid measures after skin contact : If skin irritation occurs: Wash skin with plenty of water. Obtain medical attention if irritation persists.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

First-aid measures after ingestion : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects : May cause damage to organs.

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : May cause skin irritation. Repeated exposure may cause skin dryness or cracking.

Symptoms/effects after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/effects after ingestion : Harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea. If sufficient quantities are ingested, health effects associated with anatoxins such as homoanatoxin-a (hATX) include paralysis of both the skeletal and respiratory muscles, resulting in tremors, convulsions and, ultimately, death due to respiratory failure. hATX (a cyanobacterial toxin) has been linked to animal deaths worldwide. May be fatal or cause blindness if swallowed. This material contains methanol, which, when ingested, may cause acidosis, ocular toxicity ranging from diminished visual capacity to complete blindness, and death.

Chronic symptoms : May damage fertility or the unborn child. Auditory disturbances.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media : Do not use water jet.

5.2. Specific hazards arising from the chemical

Fire hazard : Combustible liquid. Products of combustion may include, and are not limited to: oxides of carbon.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Move containers away from the fire area if this can be done without risk. Cool closed containers exposed to fire with water spray.
Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Use special care to avoid static electric charges.

For non-emergency personnel

No additional information available

For emergency responders

Environmental precautions : Prevent entry to sewers and public waters.

6.2. Methods and materials for containment and cleaning up

For containment : Stop leak if safe to do so. Remove all sources of ignition. Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.
Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid contact with skin and eyes. Do not swallow. Do not breathe dust, fume, gas, mist, spray, vapours. Do not handle until all safety precautions have been read and understood. Handle and open container with care. When using do not eat, drink or smoke.

Hygiene measures : Wash contaminated clothing before reuse. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a dry, cool and well-ventilated place at -12 °C / 10.4 °F or below. Store locked up.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

CRM-hATX	
ACGIH	Not applicable
OSHA	Not applicable
IDLH	Not applicable
NIOSH	Not applicable

Homoanatoxin-a (hATX) (142926-86-1)	
ACGIH	Not applicable
OSHA	Not applicable
IDLH	Not applicable
NIOSH	Not applicable

Acetic acid (64-19-7)		
ACGIH	ACGIH TWA (ppm)	10 ppm
ACGIH	ACGIH STEL (ppm)	15 ppm
OSHA	OSHA PEL (TWA) (mg/m³)	25 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	10 ppm
IDLH	US IDLH (ppm)	50 ppm
NIOSH	NIOSH REL (TWA) (mg/m³)	25 mg/m³

NIOSH	NIOSH REL (TWA) (ppm)	10 ppm
NIOSH	NIOSH REL (STEL) (mg/m³)	37 mg/m³
NIOSH	NIOSH REL (STEL) (ppm)	15 ppm

Methanol (67-56-1)		
ACGIH	ACGIH TWA (ppm)	200 ppm
ACGIH	ACGIH STEL (ppm)	250 ppm
OSHA	OSHA PEL (TWA) (mg/m³)	260 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
IDLH	US IDLH (ppm)	6000 ppm
NIOSH	NIOSH REL (TWA) (mg/m³)	260 mg/m³
NIOSH	NIOSH REL (TWA) (ppm)	200 ppm
NIOSH	NIOSH REL (STEL) (mg/m³)	325 mg/m³
NIOSH	NIOSH REL (STEL) (ppm)	250 ppm

Water (7732-18-5)	
ACGIH	Not applicable
OSHA	Not applicable
IDLH	Not applicable
NIOSH	Not applicable

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. If possible, take measures to reduce noise.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:
Product contains one or more chemicals that are known to cause hearing loss and which may have a synergistic effect in loud environments. If handling this product in a noisy environment, hearing protection should be worn.

Hand protection:
Wear suitable gloves. Consult glove manufacturer's product information on material suitability and material thickness.

Eye protection:
Safety glasses or goggles are recommended when using product.

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. SDSs cannot provide detailed and complete respiratory protection guidelines. Selection of respiratory protection must be done by a qualified person who has assessed the work environment.

Other information:
Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear
Colour	:	Colourless
Odour	:	Slight alcohol / vinegar odour
Odour threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	64 °C / 147.2 °F (9 % methanol/water, v/v)
Flammability (vapour	:	Combustible
Vapour pressure	:	No data available
Relative vapour density at 20°C/ 68 °F	:	No data available
Relative density	:	No data available
Density	:	0.985 g/mL
Solubility	:	No data available
Partition coefficient n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Explosive limits	:	No data available
Particle characteristics	:	No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Sources of ignition. Incompatible materials.

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon. May release flammable gases.

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

CRM-hATX	
ATE US (oral)	1381.215 mg/kg bodyweight

Acetic acid (64-19-7)	
LD50 oral rat	3310 mg/kg bodyweight Animal: rat
LD50 oral	4960 mg/kg bodyweight Animal: mouse

Homoanatoxin-a (hATX) (142926-86-1)	
LD50 intraperitoneal mouse	250 µg/kg

Methanol (67-56-1)	
LD50 oral rat	1187 – 2769 mg/kg bodyweight Animal: rat
LD50 oral	1400 mg/kg
LD50 dermal	15800 mg/kg

Methanol (67-56-1)	
LC50 inhalation rat	64000 ppm/4h

Water (7732-18-5)	
LD50 oral rat	> 90 mL/kg (Source: FOOD_JOURN)

Skin corrosion/irritation : Based on available data, the classification criteria are not met.

Acetic acid (64-19-7)	
pH	2.4 conc: 1 M (aqueous solution)

Serious eye damage/irritation : Based on available data, the classification criteria are not met.

Acetic acid (64-19-7)	
pH	2.4 conc: 1 M (aqueous solution)

Respiratory or skin sensitisation : Based on available data, the classification criteria are not met.

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 : May damage fertility or the unborn child.

Methanol (67-56-1)	
NOAEL (animal/male, F0/P)	< 1000 mg/kg bodyweight Animal: mouse, Animal sex: male

STOT-single exposure : May cause damage to organs (optic nerve, central nervous system) (if swallowed).

Methanol (67-56-1)	
STOT-single exposure	Causes damage to organs (optic nerve, central nervous system) (if swallowed). May cause drowsiness or dizziness.

STOT-repeated exposure : Based on available data, the classification criteria are not met.

Acetic acid (64-19-7)	
NOAEL (oral, rat, 90 days)	290 mg/kg bodyweight Animal: rat, Animal sex: male

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

Acetic acid (64-19-7)	
Viscosity, kinematic	1.015 mm²/s

Methanol (67-56-1)	
Viscosity, kinematic	0.687 – 0.688 mm²/s

Symptoms/effects : May cause damage to organs.

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : May cause skin irritation. Repeated exposure may cause skin dryness or cracking.

Symptoms/effects after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/effects after ingestion : Harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea. If sufficient quantities are ingested, health effects associated with anatoxins such as homoanatoxin-a (hATX) include paralysis of both the skeletal and respiratory muscles, resulting in tremors, convulsions and, ultimately, death due to respiratory failure. hATX (a cyanobacterial toxin) has been linked to animal deaths worldwide. May be fatal or cause blindness if swallowed. This material contains methanol, which, when ingested, may cause acidosis, ocular toxicity ranging from diminished visual capacity to complete blindness, and death.

Chronic symptoms : May damage fertility or the unborn child. Auditory disturbances.

Other information : Likely routes of exposure: ingestion, inhalation, skin and eyes.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

Acetic acid (64-19-7)	
LC50 - Fish [1]	> 1000 mg/L Test organisms (species): *Oncorhynchus mykiss* (previous name: *Salmo gairdneri*)
EC50 - Crustacea [1]	> 1000 mg/L Test organisms (species): *Daphnia magna*
LC50 - Fish [2]	> 300.82 mg/L Test organisms (species): *Oncorhynchus mykiss* (previous name: *Salmo gairdneri*)
EC50 - Crustacea [2]	> 300.82 mg/L Test organisms (species): *Daphnia magna*
EC50 72h - Algae [1]	> 1000 mg/L Test organisms (species): *Skeletonema costatum*
EC50 72h - Algae [2]	> 300.82 mg/L Test organisms (species): *Skeletonema costatum*

Methanol (67-56-1)	
LC50 - Fish [1]	15400 mg/L Source: ECHA
EC50 - Crustacea [1]	1340 mg/L
LC50 - Fish [2]	> 100 mg/L (Exposure time: 96 h - Species: *Pimephales promelas* [static] Source: EPA)
EC50 96h - Algae [1]	22000 mg/L Source: ECHA
NOEC (chronic)	208 mg/L Test organisms (species): *Daphnia magna* Duration: '21 d'
NOEC chronic fish	446.7 mg/L Test organisms (species): *Pimephales promelas* Duration: '28 d'

12.2. Persistence and degradability

CRM-hATX	
Persistence and degradability	Not established

Homoanatoxin-a (hATX) (142926-86-1)	
Persistence and degradability	Rapidly degradable

Acetic acid (64-19-7)	
Persistence and degradability	Rapidly degradable

Methanol (67-56-1)	
Persistence and degradability	Rapidly degradable

Water (7732-18-5)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

CRM-hATX	
Bioaccumulative potential	Not established

Acetic acid (64-19-7)	
Partition coefficient n-octanol/water	-0.17 at 25 °C (at pH 7)

Methanol (67-56-1)	
BCF - Fish [1]	(10 dimensionless)
Partition coefficient n-octanol/water	-0.77 Source: HSDB,CHemIDplus

12.4. Mobility in soil

Methanol (67-56-1)	
Mobility in soil	2.75 Source: HSDB

12.5. Other adverse effects

No additional information available

SECTION 13 Disposal considerations

Product/Packaging disposal recommendations : Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and international regulations.

Additional information : Handle empty containers with care because residual vapours are flammable.

SECTION 14 Transport information

In accordance with DOT / TDG

14.1. UN Number

UN-No. (DOT) : Not regulated

UN-No. (TDG) : Not regulated

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT) : Not regulated

Proper Shipping Name (TDG) : Not regulated

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : Not regulated

TDG

Transport hazard class(es) (TDG) : Not regulated

14.4. Packing group

Packing group (DOT) : Not regulated

Packing group (TDG) : Not regulated

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT
Not regulated

TDG
Not regulated

SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:	
Homoanatoxin-a (hATX)	CAS-No. 142926-86-1
All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories except for:	
Homoanatoxin-a (hATX)	CAS-No. 142926-86-1

15.2. International regulations

No additional information available

15.3. State regulations

No additional information available

SECTION 16 Other Information

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2024 and the Hazardous Products Regulations (HPR) WHMIS 2022

Revision date : 2026-07-22
Issue date : 2024-12-18
Other information : None
Version # : 2.0
Prepared by : Nexreg Compliance Inc.
www.Nexreg.com

Indication of changes:
SDS update.

SDS HazCom 2024 - WHMIS 2022 (Nexreg) 2026 NRC

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