

CRM-hATX

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Issue date : 2024-12-18

Revision date : 2024-12-18

Version : 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : CRM-hATX

1.2. Recommended use and restrictions on use

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

1.3. Supplier

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

1.4. Emergency telephone number

Emergency number : CANUTEC 1-613-996-6666

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS classification

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

2.2. GHS Label elements, including precautionary statements

GHS labelling

Hazard pictograms (GHS) :



Signal word (GHS) :

Danger

Hazard statements (GHS) :

Combustible liquid

Harmful if swallowed.

May damage the unborn child.

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

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.

If exposed or concerned: Call a poison center or doctor.

If swallowed: Call a poison center or doctor if you feel unwell.

Rinse mouth.

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Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	% by weight
Water	AQUA	CAS-No.: 7732-18-5	92.75
Methanol	Wood alcohol Methyl hydroxide Carbinol Methyl alcohol	CAS-No.: 67-56-1	7.24
Acetic acid	Acetic acid, glacial Ethanoic acid Ethylic acid Vinegar acid Acetic acid solution Acetic acid ...%	CAS-No.: 64-19-7	0.0107
Homoanatoxin-a (hATX)	Homoanatoxin-a	CAS-No.: 64285-06-9	0.00051

SECTION 4: First-aid measures

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

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4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects	: This material contains methanol, which, when ingested, may cause acidosis, ocular toxicity ranging from diminished visual capacity to complete blindness, and death.
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 stomach distress, nausea or vomiting. If sufficient quantities are ingested, health effects associated with anatoxins such as homoanatoxin-a 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.
Chronic symptoms	: May damage the unborn child.

4.3. Immediate medical attention and special treatment, if necessary

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.
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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.
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6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters.

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6.3. Methods and material for containment and cleaning up

- For containment : Stop leak if safe to do so. Remove ignition sources. 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.

6.4. Reference to other sections

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. 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, spray, vapours. Do not swallow. Avoid contact with skin and eyes. Handle and open container with care. When using do not eat, drink or smoke.
- Hygiene measures : Wash contaminated clothing before reuse. Always wash hands after handling the product. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Homoanatoxin-a (hATX) (64285-06-9)	
ACGIH	Not applicable
OSHA	Not applicable
IDLH	Not applicable
NIOSH	Not applicable

Acetic acid (64-19-7)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA	10 ppm
ACGIH OEL STEL	15 ppm

USA - OSHA - Occupational Exposure Limits

OSHA PEL TWA	25 mg/m ³
OSHA PEL TWA	10 ppm

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Acetic acid (64-19-7)	
USA - IDLH - Occupational Exposure Limits	
IDLH	50 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	25 mg/m ³
NIOSH REL TWA	10 ppm
NIOSH REL STEL	37 mg/m ³
NIOSH REL STEL	15 ppm

Methanol (67-56-1)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	200 ppm
ACGIH OEL STEL	250 ppm
ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route
USA - ACGIH - Biological Exposure Indices	
BEI	15 mg/L Parameter: Methanol - Medium: urine - Sampling time: end of shift (background, nonspecific)
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA	260 mg/m ³
OSHA PEL TWA	200 ppm
USA - IDLH - Occupational Exposure Limits	
IDLH	6000 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	260 mg/m ³
NIOSH REL TWA	200 ppm
NIOSH REL STEL	325 mg/m ³
NIOSH REL STEL	250 ppm
US-NIOSH chemical category	Potential for dermal absorption

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

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Water (7732-18-5)

NIOSH

Not applicable

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

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. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear, colourless liquid
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)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Flammable
Vapour pressure	: No data available

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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
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

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)	: Based on available data, the classification criteria are not met.
Acute toxicity (inhalation)	: Based on available data, the classification criteria are not met.

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ATE CA (oral)	1381.154 mg/kg bodyweight
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Homoanatoxin-a (hATX) (64285-06-9)

LD50 intraperitoneal mouse	250 µg/kg
ATE CA (oral)	500 mg/kg bodyweight
ATE CA (dermal)	1100 mg/kg bodyweight

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Homoanatoxin-a (hATX) (64285-06-9)	
ATE CA (gases)	4500 ppmv/4h
ATE CA (vapours)	11 mg/L/4h
ATE CA (dust,mist)	1.5 mg/L/4h

Acetic acid (64-19-7)	
LD50 oral rat	3310 mg/kg bodyweight Animal: rat
LD50 dermal rabbit	1060 mg/kg (Source: JAPAN_GHS)
LC50 inhalation rat	11.4 mg/L/4h
ATE CA (oral)	3310 mg/kg bodyweight
ATE CA (dermal)	1060 mg/kg bodyweight
ATE CA (gases)	700 ppmv/4h
ATE CA (vapours)	11.4 mg/L/4h
ATE CA (dust,mist)	0.5 mg/L/4h

Methanol (67-56-1)	
LD50 oral rat	1187 – 2769 mg/kg bodyweight Animal: rat
LD50 dermal rabbit	15840 mg/kg (Source: NLM_HSDB)
LC50 inhalation rat	64000 ppm/4h
ATE CA (oral)	100 mg/kg bodyweight
ATE CA (dermal)	300 mg/kg bodyweight
ATE CA (gases)	700 ppmv/4h
ATE CA (vapours)	3 mg/L/4h
ATE CA (dust,mist)	0.5 mg/L/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.
Serious eye damage/irritation	: Based on available data, the classification criteria are not met.
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 the unborn child.

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

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

Methanol (67-56-1)	
STOT-single exposure	Causes damage to organs. 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.

Symptoms/effects : This material contains methanol, which, when ingested, may cause acidosis, ocular toxicity ranging from diminished visual capacity to complete blindness, and death.

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 : May be harmful if swallowed. May cause stomach distress, nausea or vomiting. If sufficient quantities are ingested, health effects associated with anatoxins such as homoanatoxin-a 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.

Chronic symptoms : May damage fertility or the unborn child.

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

SECTION 12: Ecological information

12.1. Toxicity

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

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

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

12.2. Persistence and degradability

CRM-hATX	
Persistence and degradability	Not established

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, pH 7)

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

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations	: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Additional information	: Handle empty containers with care because residual vapours are flammable.

SECTION 14: Transport information

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Not applicable
Proper Shipping Name (TDG)	: Not applicable

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT)	: Not applicable
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TDG

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

14.4. Packing group

Packing group (DOT) : Not applicable

Packing group (TDG) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

Special transport precautions : Do not handle until all safety precautions have been read and understood.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

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. 64285-06-9
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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. 64285-06-9
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15.2. International regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

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Other information : None

Version # : 1.0

Prepared by : Nexreg Compliance Inc.

www.Nexreg.com



Full text of hazard classes and H-statements

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Flam. Liq. 4	Flammable liquids, Category 4
Repr. 1B	Reproductive toxicity, Category 1B
STOT SE 2	Specific target organ toxicity – Single exposure, Category 2

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Disclaimer:

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

This material is for research and experimental applications only. It is not intended for food, drug, household, agricultural, or cosmetic use. Its use must be supervised by technically qualified individuals with experience in the handling of potentially hazardous chemicals. Apart from the solvent in this product (if applicable), the hazardous components present in the solution are at such low concentrations that exact determination of degree of hazard is not warranted and would be misleading. We shall not be held liable for any damage resulting from handling or from contact with the above product.