CRM-PTX2-c

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2024 and the Hazardous Products Regulations (HPR) WHMIS 2022
Issue date: 2026-10-29 Revision date: 2026-10-29 Version: 1.0

SECTION 1 Identification

1.1. Product identifier

Product name : CRM-PTX2-c

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 Pectenotoxin-2, 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 2
Acute toxicity (oral), Category 3
Acute toxicity (dermal), Category 3
Acute toxicity (inhalation:vapour), Category 3
Eye irritation, Category 2A
Reproductive toxicity, Category 1B
Specific target organ toxicity, Single exposure, Category 1
Specific target organ toxicity – Single exposure, Category 3, Narcosis

2.2. Label elements

GHS labelling

Hazard pictograms (GHS) :

Signal word (GHS) : Danger

Hazard statements (GHS)	:	Highly flammable liquid and vapour Toxic if swallowed, in contact with skin or if inhaled Causes serious eye irritation May cause drowsiness or dizziness May damage fertility or the unborn child. Causes damage to organs (optic nerve, central nervous system) (if swallowed).
Precautionary statements (GHS)	:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing, eye protection, face protection and hearing protection. Do not breathe dust, fume, gas, mist, vapours or spray. Wash hands, forearms and face thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. IF exposed or concerned: Call a POISON CENTER or a doctor. IF SWALLOWED: Immediately call a POISON CENTER or a doctor. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or a doctor if you feel unwell. 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. In case of fire: Use foam, dry powder, carbon dioxide, water spray to extinguish. Store in a well-ventilated place. Keep cool. 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	Conc. (% w/w)
Methanol	Methyl Alcohol Wood alcohol / Methyl hydroxide / Carbinol	CAS-No.: 67-56-1	99.99
Pectenotoxin-2 (PTX2)	Pectenotoxin-2 (PTX2) Pectenotoxin II	CAS-No.: 97564-91-5	0.000495

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 or a doctor.

First-aid measures after inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a POISON CENTER or a doctor if you feel unwell.

First-aid measures after skin contact : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash clothing before reuse. Call a physician if irritation develops and 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, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Rinse mouth. Immediately call a POISON CENTER/doctor.

4.2. Most important symptoms/effects, acute and delayed

Potential adverse human health effects and symptoms : Toxic if swallowed, in contact with skin or if inhaled.

Symptoms/effects after inhalation : Toxic if inhaled. May cause respiratory tract irritation. Vapors may cause narcosis with headache, difficulty breathing, lightheadedness, drowsiness, unconsciousness and possibly death.

Symptoms/effects after skin contact : Toxic in contact with skin. May cause skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Other symptoms are similar to those experienced through inhalation and ingestion.

Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/effects after ingestion : Toxic if swallowed. 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. May cause stomach distress, nausea or vomiting. Ingestion may cause headache, dizziness, drowsiness, metabolic acidosis, coma, seizures. Pectenotoxins are thought to be highly hepatotoxic and mildly diarrhetic. If sufficient quantities are ingested, PTX2 may cause gastrointestinal disturbances such as diarrhea, nausea, vomiting and abdominal pain.

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

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

Other medical advice or treatment : Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray.

Unsuitable extinguishing media : None known.

5.2. Specific hazards arising from the chemical

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

Explosion hazard : May form flammable/explosive vapour-air mixture.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). Cool closed containers exposed to fire with water. Vapours may be heavier than air and may travel along the ground to a distant ignition source and flash back.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

For non-emergency personnel

No additional information available

For emergency responders

Environmental precautions	:	Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.

6.2. Methods and materials for containment and cleaning up

For containment	:	Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).
Methods for cleaning up	:	Flush/dilute with water. Scoop up material and place in a disposal container. Provide ventilation.

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

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 get in eyes, on skin, or on clothing. Do not breathe dust, fume, gas, mist, vapours or spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. Take precautionary measures against static discharge. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Use explosion-proof equipment. Wash hands before eating, drinking, or smoking.
Hygiene measures	:	Take off immediately all contaminated clothing and wash it before reuse. Wash hands, forearms and face thoroughly after handling.
Additional hazards when processed	:	Handle empty containers with care because residual vapours are flammable.

7.2. Conditions for safe storage, including incompatibilities

Technical measures	:	Proper grounding procedures to avoid static electricity should be followed.
Storage conditions	:	Keep locked up and out of reach of children. Keep container tightly closed. Keep cool. Store in a well-ventilated place. Store at -12 °C / 10.4 °F or below.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

Methanol (67-56-1)	
USA - ACGIH® - Threshold Limit Values	
ACGIH® TLV® TWA	200 ppm

Methanol (67-56-1)	
ACGIH® TLV® 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/m³
OSHA PEL TWA	200 ppm
USA - IDLH - Occupational Exposure Limits	
IDLH	6000 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	260 mg/m³
NIOSH REL TWA	200 ppm
NIOSH REL STEL	325 mg/m³
NIOSH REL STEL	250 ppm
US-NIOSH chemical category	Potential for dermal absorption

Pectenotoxin-2 (PTX2) (97564-91-5)	
ACGIH	Not applicable
OSHA	Not applicable
IDLH	Not applicable
NIOSH	Not applicable

8.2. Appropriate engineering controls

Appropriate engineering controls : Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits. If possible, take measures to reduce noise.

Environmental exposure controls : Maintain levels below community environmental protection thresholds.

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 chemically resistant protective gloves.

Eye protection:
Wear approved eye (properly fitted dust- or splash-proof chemical safety goggles) / face (face shield) protection.

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.

Other information:
Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear. Colourless liquid.
Colour	:	Colourless
Odour	:	Slight alcohol
Odour threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	64.7 °C (148.46 °F) (methanol)
Flash point	:	11 °C (51.8 °F) (methanol)
Flammability (solid, gas)	:	Highly flammable liquid and vapour
Vapour pressure	:	No data available
Relative vapour density at 20°C/ 68 °F	:	No data available
Relative density	:	No data available
Density	:	0.78868 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 reaction known under conditions of normal use.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Heat. Incompatible materials. Sources of ignition.

10.5. Incompatible materials

Moisture. Acids. Acid chlorides. Acid anhydrides. Oxidizing agents. Alkali metals. Reducing agents.

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) : Toxic if swallowed.
Acute toxicity (dermal) : Toxic in contact with skin.
Acute toxicity (inhalation) : Inhalation:vapour: Toxic if inhaled.

CRM-PTX2-c	
LD50 oral rat	> 50 but < 300 mg/kg (Calculated using ATE values)
LD50 dermal rabbit	> 200 but < 1000 mg/kg (Calculated using ATE values)
LC50 inhalation rat	> 2 but < 10 mg/L/4h (Calculated using ATE values)
ATE US (oral)	100.01 mg/kg bodyweight
ATE US (dermal)	300.03 mg/kg bodyweight
ATE US (vapours)	3 mg/L/4h

Methanol (67-56-1)	
LD50 oral rat	1187 – 2769 mg/kg bodyweight Animal: rat
LD50 oral	1400 mg/kg
LD50 dermal	15800 mg/kg
LC50 inhalation rat	64000 ppm/4h

Pectenotoxin-2 (PTX2) (97564-91-5)	
LD50 intraperitoneal mouse	219 µg/kg

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

Serious eye damage/irritation : Causes serious eye irritation.

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

Germ cell mutagenicity : Based on available data, the classification criteria are not been met.

Carcinogenicity : Based on available data, the classification criteria are not been 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 : Causes damage to organs (optic nerve, central nervous system) (if swallowed). May cause drowsiness or dizziness.

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 been met.

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

CRM-PTX2-c	
Viscosity, kinematic	No data available

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

Pectenotoxin-2 (PTX2) (97564-91-5)	
Viscosity, kinematic	No data available

Potential adverse human health effects and symptoms : Toxic if swallowed, in contact with skin or if inhaled.

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

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.

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-PTX2-c	
Persistence and degradability	Not established.

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

Pectenotoxin-2 (PTX2) (97564-91-5)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

CRM-PTX2-c	
Bioaccumulative potential	Not established.

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 : This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimised wherever possible.

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) : UN1230
UN-No. (TDG) : UN1230

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT) : Methanol
Proper Shipping Name (TDG) : METHANOL

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : 3 (6.1)
Hazard labels (DOT) : 3, 6.1

TDG

Transport hazard class(es) (TDG) : 3 (6.1)
Hazard labels (TDG) : 3, 6.1

14.4. Packing group

Packing group (DOT) : II
Packing group (TDG) : II

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

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

DOT

UN-No. (DOT) : UN1230
DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202

DOT Packaging Bulk (49 CFR 173.xxx)	:	242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	60 L
DOT Vessel Stowage Location	:	B - (i) The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) ‘‘On deck only’’ on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
DOT Vessel Stowage Other	:	40 - Stow ‘‘clear of living quarters’’

TDG

UN-No. (TDG)	:	UN1230
TDG Special Provisions	:	43 - Despite section 2.1 of Part 2 (Classification), these dangerous goods are assigned to this classification based on human experience.
Explosive Limit and Limited Quantity Index	:	1 L
Excepted quantities (TDG)	:	E2
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	:	1 L
Emergency Response Guide (ERG) Number	:	131

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:	
Pectenotoxin-2 (PTX2)	CAS-No. 97564-91-5

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:	
Pectenotoxin-2 (PTX2)	CAS-No. 97564-91-5

Methanol (67-56-1)	
Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

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	:	2026-10-29
Issue date	:	2026-10-29
Other information	:	None
Version #	:	1.0
Prepared by	:	Nexreg Compliance Inc. www.Nexreg.com

SDS HazCom 2024 - WHMIS 2022 (Nexreg) 2026 NRC

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.

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