

CRM-YTX-d

Safety Data Sheet

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

Issue date : 2024-06-26

Revision date : 2024-06-26

Version : 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : CRM-YTX-d

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Certified Calibration Solution for Yessotoxin, 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

Flammable Liquid 2
Acute Toxicity 3 (Oral)
Acute Toxicity 3 (Dermal)
Acute Toxicity 3 (Inhalation:vapour)
Eye Irritant 2A
Reproductive Toxicity 1B
Specific Target Organ Toxicity Single Exposure 1
Specific Target Organ Toxicity Single Exposure 3

2.2. GHS Label elements, including precautionary statements

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 the unborn child.
Causes damage to organs (Optic nerve, Central nervous system)

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.
Keep container tightly closed.
Ground/Bond container and receiving equipment.

CRM-YTX-d

Safety Data Sheet

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

Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/fume/gas/mist/vapours/spray.
Avoid contact during pregnancy/while nursing.
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.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Immediately call a poison center or doctor.
Rinse mouth.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
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.
If exposed: Call a poison center/doctor.
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
Methanol	Methanol METHYL ALCOHOL / Wood alcohol / Methyl hydroxide / Carbinol / Methyl alcohol	CAS-No.: 67-56-1	99.99
Yessotoxin	Yessotoxin	CAS-No.: 112514-54-2	0.0006

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 inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor.
If breathing is difficult, give oxygen. If not breathing, give artificial respiration.

CRM-YTX-d

Safety Data Sheet

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

- First-aid measures after skin contact : If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.
- 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: Immediately call a POISON CENTER/doctor. Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

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

- Symptoms/effects : Causes damage to organs (Optic nerve, central nervous system). The toxicity of yessotoxin is still being investigated. No evidence of oral toxicity to humans has been determined; however, it has been shown that the compound may be cardiotoxic.
- Symptoms/effects after inhalation : Toxic if inhaled. May cause irritation to the respiratory tract. May cause drowsiness or dizziness.
- 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.
- Symptoms/effects after eye contact : May cause 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. This material contains methanol, which, when ingested, may cause acidosis, ocular toxicity ranging from diminished visual capacity to complete blindness, and death. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- 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 : Alcohol resistant foam. Carbon dioxide (CO₂). Water spray. Dry chemical powder.
- Unsuitable extinguishing media : Do not use water jet.

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. May release flammable gases. Irritating vapours.
- Explosion hazard : May form flammable/explosive vapour-air mixture. Vapours are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapours.

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.

CRM-YTX-d

Safety Data Sheet

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

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 : Remove all sources of ignition. 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.

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.

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

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.
Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Handle and open container with care. Do not breathe dust, fume, gas, mist, spray, vapours. Avoid contact with skin and eyes. Do not swallow. When using do not eat, drink or smoke. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Ground and bond container and receiving equipment. Use only explosion-proof equipment.
Hygiene measures : Take off immediately all contaminated clothing and wash it before reuse. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.
Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a dry, cool and well-ventilated place. Keep in fireproof place. Keep away from heat and direct sunlight. Keep away from food, drink and animal feeding stuffs. Keep/Store away from clothing and other combustible materials. Store locked up.

CRM-YTX-d

Safety Data Sheet

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

Storage temperature : Store at -12 °C (10.4 °F) or below

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

CRM-YTX-d	
No additional information available	

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

Yessotoxin (112514-54-2)	
No additional information available	

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Provide readily accessible eye wash stations and safety showers.

Environmental exposure controls : Avoid release to the environment.

CRM-YTX-d

Safety Data Sheet

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

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear suitable gloves resistant to chemical penetration. Consult glove manufacturer's product information on material suitability and material thickness.

Eye protection:

Wear eye/face 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. 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
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)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Highly flammable liquid and vapour
Vapour pressure	: No data available
Relative vapour density at 20°C / 68 °F	: No data available
Relative density	: 0.79 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

CRM-YTX-d

Safety Data Sheet

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

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. Direct sunlight. Incompatible materials.

10.5. Incompatible materials

Strong oxidizers. Strong bases. Strong acids. Moisture. Acids. Acid chlorides. Acid anhydrides. Alkali metals. Reducing agents.

10.6. Hazardous decomposition products

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

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-YTX-d	
ATE CA (oral)	100.01 mg/kg bodyweight
ATE CA (dermal)	300.03 mg/kg bodyweight
ATE CA (vapours)	3 mg/L/4h

Yessotoxin (YTX) (112514-54-2)	
LD50 intraperitoneal, mouse	286 µg/kg

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

CRM-YTX-d

Safety Data Sheet

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

Methanol (67-56-1)	
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

Skin corrosion/irritation	: Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Causes serious eye irritation.
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	: Causes damage to organs (optic nerve, central nervous system). May cause drowsiness or dizziness.
----------------------	---

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
Aspiration hazard	: Based on available data, the classification criteria are not met
Symptoms/effects	: Causes damage to organs (Optic nerve, central nervous system). The toxicity of yessotoxin is still being investigated. No evidence of oral toxicity to humans has been determined; however, it has been shown that the compound may be cardiotoxic.
Symptoms/effects after inhalation	: Toxic if inhaled. May cause irritation to the respiratory tract. May cause drowsiness or dizziness.
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.
Symptoms/effects after eye contact	: May cause 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. This material contains methanol, which, when ingested, may cause acidosis, ocular toxicity ranging from diminished visual capacity to complete blindness, and death. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic symptoms	: May damage the unborn child.

CRM-YTX-d

Safety Data Sheet

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

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.

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-YTX-d	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

CRM-YTX-d	
Bioaccumulative potential	Not established.

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

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

14.2. UN proper shipping name

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

CRM-YTX-d

Safety Data Sheet

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

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. 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:

Yessotoxin	CAS-No. 112514-54-2
------------	---------------------

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:

Yessotoxin	CAS-No. 112514-54-2
------------	---------------------

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

Issue date : 2024-06-26
Revision date : 2024-06-26
Other information : None
Version # : 1.0
Prepared by : Nexreg Compliance Inc.
www.Nexreg.com



CRM-YTX-d

Safety Data Sheet

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

Full text of hazard classes and H-statements	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Flam. Liq. 2	Flammable liquids, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
STOT SE 1	Specific target organ toxicity – Single exposure, Category 1
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis

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.