CRM-DA-h

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2024 and the Hazardous Products Regulations (HPR) WHMIS 2022
Issue date: 2022-07-20 Revision date: 2026-01-22 Version: 2.0

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : CRM-DA-h

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 : Certified Calibration Solution for Domoic Acid, 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 3

2.2. Label elements

GHS labelling

Hazard pictograms (GHS) :

Signal word (GHS) : Warning
Hazard statements (GHS) : Flammable liquid and vapour
Precautionary statements (GHS) : 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.
Use explosion-proof electrical, lighting, ventilating equipment.
Use non-sparking tools.

Take action to prevent static discharges.
Wear protective gloves, protective clothing, face protection, eye protection.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of fire: Use alcohol resistant foam, Dry chemical, carbon dioxide (CO_2) to extinguish.
Store in a well-ventilated place. Keep cool.
Dispose of contents and container to a hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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)
Water	AQUA AQUA	CAS-No.: 7732-18-5	96.02
Domoic acid (DA)	Domoic acid (DA) Domoic acid	CAS-No.: 14277-97-5	0.0098
Acetonitrile	Acetonitrile Cyanomethane / Ethanenitrile / Ethyl nitrile / Methane, cyano- / Methanecarbonitrile / Methyl cyanide / acetonitrile	CAS-No.: 75-05-8	3.97

SECTION 4 First-aid measures

4.1. Description of necessary first-aid measures

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 on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash clothing before re-using. Get medical attention 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/attention.

First-aid measures after ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

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, domoic acid may cause nausea, headache, vomiting, abdominal cramps and may be fatal.

Other Symptoms : Neurological symptoms caused by domoic acid include confusion, memory loss and disorientation. Chronic exposure to domoic acid may cause damage to the brain and central nervous system, delirium, convulsions, paralysis and coma.

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 : Dry chemical. Alcohol resistant foam. Carbon dioxide (CO2).

Unsuitable extinguishing media : Do not use water jet.

5.2. Specific hazards arising from the chemical

Fire hazard : 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

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. Remove all sources of ignition.

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 : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting equipment . Avoid contact with skin and eyes. Avoid breathing dust, fume, gas, mist, spray, vapours. 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.

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 : Store in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep container tightly closed.

Storage temperature : 4 °C / 39.2 °F

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

CRM-DA-h	
ACGIH	Not applicable
OSHA	Not applicable
IDLH	Not applicable
NIOSH	Not applicable

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

Domoic acid (DA) (14277-97-5)	
ACGIH	Not applicable
OSHA	Not applicable
IDLH	Not applicable
NIOSH	Not applicable

Acetonitrile (75-05-8)		
ACGIH	ACGIH® TLV® TWA (ppm)	20 ppm
ACGIH	ACGIH® chemical category	Not Classifiable as a Human Carcinogen, Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA	OSHA PEL TWA (mg/m³)	70 mg/m³
OSHA	OSHA PEL TWA (ppm)	40 ppm
IDLH	US IDLH (ppm)	137 ppm
NIOSH	NIOSH REL TWA (mg/m³)	34 mg/m³
	NIOSH REL TWA (ppm)	20 ppm

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, such as 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. Basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear colourless liquid
Colour	:	Colourless
Odour	:	Slight ether
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	:	46 °C/ 114.8 °F (5% acetonitrile/water, v/v)
Flammability (solid, gas)	:	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	:	0.99 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. Incompatible materials. Sources of ignition. Direct sunlight.

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) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

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

Domoic acid (14277-97-5)	
LD50 intraperitoneal mouse	3.6 mg/kg

Acetonitrile (75-05-8)	
LD50 dermal rabbit	> 2000 mg/kg (Source: ECHA_API)

Acetonitrile (75-05-8)	
LC50 inhalation rat	26.8 mg/L/4h

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

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

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

Acetonitrile (75-05-8)	
NOAEC (inhalation, rat, gas, 90 days)	400 ppm Animal: rat, Guideline: other:

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

CRM-DA-h	
Viscosity, kinematic	No data available

Water (7732-18-5)	
Viscosity, kinematic	No data available

Domoic acid (DA) (14277-97-5)	
Viscosity, kinematic	No data available

Acetonitrile (75-05-8)	
Viscosity, kinematic	No data available

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, domoic acid may cause nausea, headache, vomiting, abdominal cramps and may be fatal.

Other Symptoms : Neurological symptoms caused by domoic acid include confusion, memory loss and disorientation. Chronic exposure to domoic acid may cause damage to the brain and central nervous system, delirium, convulsions, paralysis and coma.

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

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

Acetonitrile (75-05-8)	
LC50 - Fish [1]	1600 – 1690 mg/L (Exposure time: 96 h - Species: *Pimephales promelas* [flow-through] Source: EPA)
EC50 - Crustacea [1]	> 1000 mg/L Test organisms (species): *Daphnia magna*
LC50 - Fish [2]	1000 mg/L (Exposure time: 96 h - Species: *Pimephales promelas* [static] Source: EPA)
EC50 72h - Algae [1]	3560 mg/L Test organisms (species): *Phaeodactylum tricornutum*
EC50 72h - Algae [2]	9696 mg/L Test organisms (species): *Phaeodactylum tricornutum*
LOEC (chronic)	> 960 mg/L Test organisms (species): *Daphnia magna* Duration: '21 d'
NOEC (chronic)	960 mg/L Test organisms (species): *Daphnia magna* Duration: '21 d'
NOEC chronic fish	102 mg/L Test organisms (species): *Oryzias latipes* Duration: '21 d'

12.2. Persistence and degradability

CRM-DA-h	
Persistence and degradability	Not established

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

Domoic acid (DA) (14277-97-5)	
Persistence and degradability	Rapidly degradable

Acetonitrile (75-05-8)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

CRM-DA-h	
Bioaccumulative potential	Not established

Acetonitrile (75-05-8)	
Partition coefficient n-octanol/water	-0.34

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13 Disposal considerations

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

In accordance with DOT / TDG

14.1. UN Number

UN-No. (DOT) : UN1993
UN-No. (TDG) : UN1993

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT) : Flammable liquids, n.o.s. (Acetonitrile)
Proper Shipping Name (TDG) : FLAMMABLE LIQUID, N.O.S. (Acetonitrile)

14.3. Transport hazard class(es)

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

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

14.4. Packing group

Packing group (DOT) : III
Packing group (TDG) : III

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) : UN1993

DOT Special Provisions (49 CFR 172.102) : B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.
B52 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks.
IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). 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, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / (1 + a (tr - tf)) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx)	:	242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	220 L
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.

TDG

UN-No. (TDG)	:	UN1993
TDG Special Provisions	:	16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the danger or dangers posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS,150 - An approved ERAP is required for the dangerous goods referred to in paragraph 7.2(1)(f) of Part 7 (Emergency Response Assistance Plan).
Explosive Limit and Limited Quantity Index	:	5 L
Excepted quantities (TDG)	:	E1
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	:	60 L
Emergency Response Guide (ERG) Number	:	128

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:	
Domoic acid (DA)	CAS-No. 14277-97-5
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:	
Domoic acid (DA)	CAS-No. 14277-97-5

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 : 2026-01-22
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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

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.