MATERIAL SAFETY DATA SHEET

NRC CRM-GTX2&3-c

SECTION I — PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	Certified Reference Materials Program National Research Council Canada Institute for Marine Biosciences 1411 Oxford Street Halifax, Nova Scotia B3H 3Z1
TELEPHONE:	(902) 426-8281/51
CANUTEC 24-hr Emergency Number	(613) 996-6666
PRODUCT NAME:	Epimerized solution of Gonyautoxin 2 hydrochloride and Gonyautoxin 3 hydrochloride in dilute hydrochloric acid
TRADE NAME:	NRC-CRM-GTX2&3-c
PRODUCT USE:	For laboratory use only

SECTION II — HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS NO.	CONCENTRATION
Hydrochloric Acid	7647-01-0	0.003M
Gonyautoxin 2 hydrochloride	60508-89-6 (free base)	114.2 μM
Gonyautoxin 3 hydrochloride	60537-65-7 (free base)	43.4 μM

SECTION III — PHYSICAL DATA

Physical State:	liquid
Appearance and Odour:	clear, colourless liquid with no odour
Specific Gravity:	1.0 g/mL
Vapour Pressure:	not determined
Vapour Density:	not determined

SECTION III PHYSICAL DATA (Cont'd)

Evaporation Rate:	not determined
Boiling Point:	not determined
Freezing Point:	not determined
pH:	2.6
Coefficient of Oil/Water Distribution:	Not determined

SECTION IV FIRE AND EXPLOSION HAZARDS

Conditions of Flammability:	Not flammable
Flash Point:	Not applicable
Extinguishing Media:	Use extinguishing media appropriate for surrounding fire: water, carbon dioxide or foam
Hazardous Combustion Products:	Not applicable
Explosion Data:	Not applicable

SECTION V REACTIVITY DATA

Stability:	Stable under conditions of use and storage.
Incompatibilities:	Most metals, metal oxides, alkali, cyanides, sulfides, sulfites, formaldehydes.
Hazardous Decomposition Products:	Hazardous polymerization will not occur. Fumes from hydrogen chloride and hydrogen in contact with metals, chlorine from oxidizers; toxic and irritating vapours

SECTION VI TOXICOLOGICAL PROPERTIES

The health hazards given for hydrochloric acid, acetic acid, Gonyautoxin 2 hydrochloride and Gonyautoxin 3 hydrochloride in this data sheet applies to concentrated solutions. The hazards of dilute solutions may be reduced.

Route of Entry:

• Skin Contact:	Toxic and corrosive
• Skin Absorption:	Toxic and corrosive
• Eye Contact	Toxic and corrosive
• Inhalation	Toxic and corrosive
• Ingestion	Toxic and corrosive

LD_{50}:	27.8 µg/kg (i.p., mouse) (GTX 2) 15.7 µg/kg (i.p., mouse) (GTX 3) 900 mg/kg (oral, rat) (hydrochloric acid)

SECTION VI TOXICOLOGICAL PROPERTIES (Cont'd)

Acute Exposure:

Contact with hydrochloric acid causes eye and skin damage resulting in redness, pain and severe skin burns. Inhalation of vapors can cause immediate pain and burns of the nose, throat and upper respiratory tract. Ingestion can cause immediate pain and burns to the mouth, throat, esophagus and gastrointestinal tract.

Contact with hydrochloric acid causes irritation of the respiratory system, liquid may cause eye and skin damage; ingestion may cause burning, nausea, vomiting.

Ingestion of gonyautoxins such Gonyautoxin 2 hydrochloride and Gonyautoxin 3 hydrochloride causes paresthesia (numbness), paralysis, respiratory arrest.

Chronic Exposure:

Hydrochloric Acid. Possible erosion of teeth. Persons with pre-existing medical conditions such as eye or skin problems or chronic respiratory disease may be more susceptible to the effects of concentrated hydrochloric acid.

No information is available on the long-term exposure to Gonyautoxin 2 hydrochloride or Gonyautoxin 3 hydrochloride.

Carcinogenicity/Teratogenicity/ Mutagenicity/Reproductive Toxicity:

No information available. The toxicological properties of the paralytic shellfish toxins such as Gonyautoxin 2 hydrochloride and Gonyautoxin 3 hydrochloride have not been thoroughly investigated.

SECTION VII FIRST AID MEASURES

Skin: Drench affected skin with water for at least 15 minutes. Remove all clothing and place it in the open air (wash before reuse). Obtain medical attention.

Eye: Irrigate thoroughly with water for at least 15 minutes. Obtain medical attention.

Inhalation: Remove to fresh air or ventilated area. Obtain medical attention.

Ingestion: Do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Obtain medical attention immediately.

SECTION VIII PREVENTATIVE MEASURES

Personal Protective Equipment:	Protective clothing; gloves, safety goggles and laboratory coat.
Storage Requirements:	Store in the dark in a refrigerator 4°C). Solutions are also stable when stored in a reliable freezer, one that does not undergo a periodic freeze-thaw cycle. (preferably <-20°C).
Handling Procedures and Equipment:	Avoid contact with eyes, skin and clothing. Avoid inhalation of vapours. Avoid prolonged or repeated exposure. Wash hands thoroughly after handling.
Leak or Spill Clean-up:	Wipe with plenty of water and run to waste, diluting greatly with running water. Otherwise absorb on inert absorbent and transport to safe open area for atmospheric evaporation.

SECTION IX PREPARATION INFORMATION

Prepared by:	Certified Reference Materials Program National Research Council Canada Institute for Marine Biosciences Halifax, Nova Scotia Canada 902-426-8281/8251
Date:	April 2009

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. The hazardous components are present in such low quantities that exact determination of degree of hazard is not warranted and would be misleading.

The above information is correct to the best of our knowledge. We do not purport that the information is all conclusive but merely serves as a guide. We shall not be held liable for any damage resulting from handling or from contact with the above product.