

Safety Data Sheet

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Version 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product name Ryanodine

UN/ID No 3077

Recommended use For research use only

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Cambridge, MA 02139-1517
USA
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2. HAZARDS IDENTIFICATION

GHS - Classification

Acute oral toxicity	Category 4
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

GHS Label elements, including precautionary statements



Signal Word

Warning

Hazard statements

H302 - Harmful if swallowed

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

- P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell
- P270 - Do not eat, drink or smoke when using this product
- P264 - Wash face, hands and any exposed skin thoroughly after handling
- P330 - Rinse mouth
- P273 - Avoid release to the environment
- P391 - Collect spillage
- P501 - Dispose of contents/ container to an approved waste disposal plant

Other information

Caution - substance not yet tested completely

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

For the full text of the H-Statements mentioned in this Section, see Section 16

4. FIRST AID MEASURES

General advice	If symptoms persist, call a physician.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	Move to fresh air.
Ingestion	Rinse mouth. If symptoms persist, call a physician.
Notes to physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties	Not flammable.
Flash point	not determined
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Explosion Data	
Sensitivity to Mechanical Impact	none.
Sensitivity to Static Discharge	none.
Protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Use personal protective equipment. Avoid contact with the skin and the eyes. Avoid dust formation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Try to prevent the material from entering drains or water courses.
Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers. Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading.
Other information	Refer to protective measures listed in sections 7 and 8.

7. HANDLING AND STORAGE

Advice on safe handling	Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Use only in area provided with appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use.
Technical measures/Storage conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep in properly labeled containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Engineering measures	Showers Eyewash stations Ventilation systems
Personal protective equipment	
Eye/face protection	Tightly fitting safety goggles.
Skin and body protection	No special protective equipment required.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Hygiene measures	When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White.	Odor	No information available.
Odor Threshold	No information available	Physical State @20°C	Solid
pH	No information available	Autoignition temperature	No information available
Flash point	No information available	Boiling point/boiling range	No information available
Decomposition temperature	No information available	Flammability Limits in Air	No information available
Melting point/range	No information available		
Explosion limits	No information available		
Specific Gravity	no data available	solubility	Ethanol.
Evaporation rate	No information available	Vapor density	no data available
VOC Content(%)	not applicable		

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Incompatible products	None known based on information supplied.
Conditions to avoid	None known based on information supplied.
Hazardous decomposition products	Carbon monoxide (CO). Carbon dioxide (CO ₂). Nitrogen oxides (NO _x).
Hazardous polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information	Product is harmful by ingestion.
Ingestion	Harmful if swallowed

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ryanodine	750 mg/kg (Rat)	4,000 mg/kg (Rabbit)	

Chronic toxicity

Target Organ Effects	None known.
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12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Ryanodine		LC50 (Static) <i>Oncorhynchus mykiss</i> (Rainbow trout): 3.2 mg/l (96 h) LC50 (Static) <i>Lepomis macrochirus</i> (Bluegill sunfish): 18.5 mg/kg (96 h)		EC50 (Renewal) <i>Daphnia magna</i> (Water flea): 0.044 mg/l (48 h)

13. DISPOSAL CONSIDERATIONS

Waste disposal methods	Dispose of in accordance with local regulations.
Contaminated packaging	Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT	Excepted Quantity
Proper shipping name	Environmentally hazardous substance, solid, n.o.s. (Ryanodine)
Hazard class	9
UN/ID No	3077
Packing group	III
IATA	Excepted Quantity
UN/ID No	3077
Proper shipping name	Environmentally hazardous substance, solid, n.o.s. (Ryanodine)
Hazard class	9
Packing group	III
ADR	Excepted Quantity
Proper shipping name	Environmentally hazardous substance, solid, n.o.s. (Ryanodine)
Hazard class	9
UN/ID No	3077
Packing group	III

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	yes
Chronic Health Hazard	no
Fire Hazard	no
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations**International Regulations**

Mexico - Grade Slight risk, Grade 1

WHMIS Note:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION**Full text of H-Statements referred to under sections 2 and 3**

H302 - Harmful if swallowed H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects

Hazard statements

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Revision Date 13-Jul-2015

Revision Note No information available.

Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of MSDS