

Safety Data Sheet

Issuing date no data available

Revision Date 13-Jul-2015

Version 2

1. PRODUCT AND COMPANY IDENTIFICATION

Product name Terbutaline hemisulfate

Recommended use For research use only

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USA
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2. HAZARDS IDENTIFICATION

GHS - Classification

Respiratory sensitization	Category 1
Skin sensitization	Category 1
Reproductive toxicity	Category 2

GHS Label elements, including precautionary statements



Signal Word

Danger

Hazard statements

H317 - May cause an allergic skin reaction

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

H361 - Suspected of damaging fertility or the unborn child

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

P304 + P341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician
 P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention
 P308 + P313 - IF exposed or concerned: Get medical advice/ attention
 P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
 P280 - Wear protective gloves/ eye protection/ face protection
 P285 - In case of inadequate ventilation wear respiratory protection
 P201 - Obtain special instructions before use
 P202 - Do not handle until all safety precautions have been read and understood
 P501 - Dispose of contents/ container to an approved waste disposal plant
 P405 - Store locked up
 P272 - Contaminated work clothing should not be allowed out of the workplace
 P363 - Wash contaminated clothing before reuse

Other information

Caution - substance not yet tested completely

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Terbutaline hemisulfate	23031-32-5	60-100	Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Repr. 2 (H361d)

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. May cause an allergic skin reaction. If symptoms persist, call a physician.
Inhalation	Move to fresh air. Artificial respiration and/or oxygen may be necessary. If symptoms persist, call a physician.
Ingestion	Clean mouth with water. Drink plenty of water.
Notes to physician	May cause sensitization of susceptible persons. 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.
Specific hazards arising from the chemical	Thermal decomposition can lead to release of irritating gases and vapors In the event of fire and/or explosion do not breathe fumes May cause sensitization by inhalation and skin contact
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	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	Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material.
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	Water Solubility VALUE	Soluble in water
Explosion limits	No information available	Evaporation rate	No information available
Specific Gravity	no data available	VOC Content(%)	not applicable
solubility	Dimethylsulfoxide.		
Vapor density	no data available		

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). Sulfur oxides.
Hazardous polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Product Information	May cause sensitization of susceptible persons.
Inhalation	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin contact	May cause sensitization by skin contact

Chronic toxicity

Chronic toxicity	Repeated contact may cause allergic reactions in very susceptible persons Avoid repeated exposure
Sensitization	As a precaution the product should be treated as a sensitizer.
Reproductive toxicity	Product is or contains a chemical which is a known or suspected reproductive hazard
Developmental Toxicity	Contains ingredients that have suspected developmental hazards Possible risk of harm to the unborn child May cause birth defects
Target Organ Effects	None known.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods	This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.
Contaminated packaging	Do not re-use empty containers.

14. TRANSPORT INFORMATION

<u>DOT</u>	Not dangerous goods
<u>IATA</u>	Not dangerous goods
<u>ADR</u>	Not dangerous goods

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	yes
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****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**

H317 - May cause an allergic skin reaction
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Hazard statements

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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