

## MATERIAL SAFETY DATA SHEET (MSDS)

according to Regulation (EC) No. 1907/2006

Version 2.0 Revision Date 01.06.2015


### 1.0 Identification of the substance/preparation and of the company/enterprise

- 1.1 Product identifiers** Catecholborane  
**EINECS** 205-991-5  
**CAS** 274-07-7  
**RTECS** Not available
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**  
 Hydroboration reagent
- 1.3 Details of the supplier of the safety data sheet**  
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- 1.4 Emergency telephone number** (+7)-8313-249 750/ 630

### 2.0 Hazards Identification

- 2.1 Classification of the substance or mixture**  
 Catecholborane is a transparent colourless liquid, readily reacts with moist air or water, highly flammable. Material may be harmful by inhalation, ingestion, skin absorption. Causes eye and skin burns. Material is extremely destructive to mucous membranes, respiratory tract, eyes and skin. No manipulations with the product are allowed till safety measures recommended by the producer are studied and mastered.

**Regulation (EC) No 1272/2008 Annex VI Table**

Classification		Labelling		
Hazard Class and Category Code(s)	Hazard Statement Code(s)	Pictogram Signal Word Code(s)	Hazard Statement Code(s)	Suppl. Hazard statement code(s)
Flam. liquids 2 Skin corrosion 1B	H225 H314	 Danger	H225 H314	EUH014

- 2.2 Label elements**
- Hazard statement(s):**  
 H225 Highly flammable liquid and vapour.  
 H314 Causes severe skin burns and eye damage.  
 EUH014 Reacts violently with water.
- Precautionary statement(s):**  
 P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P305+P351+ 338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a POISON CENTER or doctor/physician.

**3.0 Composition / information on ingredients**

<b>Trade names/Synonyms</b>	: 1,3,2-benzodioxaborole
Catecholborane	: no less than 98%
CAS no.	: 274-07-7
EINECS	: 205-991-5
Formula	: C <sub>6</sub> H <sub>5</sub> BO <sub>2</sub>
Molecular mass	: 119.92 g/mol
Classification	: Flam. liquids 2; Skin corrosion 1B; H225, H314, EUH014

**4.0 First Aid Measures****4.1 Description of first aid measures****After skin contact**

Immediately wash the contaminated skin with soap and plenty of water.

**After eyes contact**

Immediately wash with plenty of water with eyelids wide open and call for an eye-specialist.

**Respiratory system**

Take the victim to the fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is stopped, give oxygen. Urgently send to hospital.

**After ingestion/inhalation**

Make a victim drink plenty of water, induce vomiting. Consult a doctor immediately.

**4.2 Most important symptoms and effects, both acute and delayed**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**4.3 Indication of immediate medical attention and special treatment needed**

no data available

**5.0 Fire Fighting Measures****5.1 Extinguishing media****Suitable extinguishing media**

Powder fire extinguisher, inert gas.

**Unsuitable extinguishing media**

Water, foam, carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

Highly flammable liquid. Material readily reacts with water generating flammable and explosive hydrogen gas. Combustion products: Carbon monoxide, carbon dioxide, boron oxide.

**5.3 Precautions for fire-fighters**

Wear full protective clothing, including protective gloves and boots. For respiratory protection use a self-contained breathing apparatus operating in a positive pressure mode.

**5.4 Further information**

no data available

**6.0 Accidental Release Measures****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up**

Dry the place of release with sand and place into air-proof container, make a decomposition with isopropyl alcohol and send for fire treatment. Do not flush with water.

**6.4 Reference to other sections**

For disposal see section 13.

**7.0 Handling and Storage**

**7.1 Precautions for safe handling**

Eating, drinking, smoking as well as keeping of food in a workroom is forbidden.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a tight container in an inert gas atmosphere, without contact with air and moisture at the temperature no higher than 0 – 5 °C. Keep away from heat, sparks and open flame.

**7.3 Specific end uses - no data available****8.0 Exposure Control and Personnel Protection****8.1 Control parameters**

**Components with workplace control parameters**

**8.2 Exposure controls**

see clause 7.

**Personal protective equipment****Normal use & handling**

Respiratory system - NIOHA/MSHA-approved respirator.

Hands protection - rubber gloves.

Eyes protection - closely fitted goggles.

Skin protection - protective clothes.

**Accidental work**

Full protective clothing, including gloves and boots, respiratory protection.

**Exposure limits** - not available.

**Technical equipment**

A leakproof system, packless valves, welded pipelines and other leakproof constructions.

**Industrial hygiene**

When handling the product provide an effective exhaust ventilation in a working place. Keep working clothes in a separate place. Wash hands before breaks and after working with the product. Change the contaminated clothes, take it to laundry regularly. Shower after work is obligatory.

**9.0 Physical and Chemical Properties****9.1 Information on basic physical and chemical properties**

Form of the compound : transparent liquid

Colour : colourless

Odour : specific

pH : N/A

BP/BP Range : 50°C/ 50 mm Hg

MP/MP Range : 12 °C

Flash Point : 2°C

Flammability : N/A

Autoignition Temp. : N/A

Oxidizing Properties : N/A

Explosive Properties : N/A

Explosion Limits Lower : N/A

Vapor Pressure : N/A

Density : 1.125 g/ml

Partition Coefficient : N/A

Viscosity : N/A

Vapor Density : N/A

Saturated Vapor Conc. : N/A

Evaporation Rate : N/A

Decomposition Temp. : N/A

Solvent Content : N/A

Water Content : N/A

Surface Tension : N/A

Conductivity : N/A

Miscellaneous Data	: N/A
Solubility	: N/A
<b>9.2 Other safety information</b>	
Bulk Density	: N/A

## 10.0 Stability and Reactivity

<b>10.1 Reactivity</b>	: no data available
<b>10.2 Chemical stability</b>	The product is stable when stored in a sealed container in an inert gas atmosphere at the temperature 0 – 5 °C.
<b>10.3 Possibility of hazardous reactions</b>	: see clause 7.
<b>10.4 Conditions to avoid</b>	: Exposure to moisture.
<b>10.5 Incompatible materials</b>	: Moist, strong acids, oxidants.
<b>10.6 Hazardous decomposition products</b>	: Boric acid, carbon monoxide, carbon dioxide.

## 11.0 Toxicological Information

<b>11.1 Information on toxicological effects</b>	
<b>Acute toxicity</b>	no data available
<b>Skin corrosion/irritation</b>	no data available
<b>Serious eye damage/eye irritation</b>	no data available
<b>Respiratory or skin sensitization</b>	no data available
<b>Germ cell mutagenicity</b>	no data available
<b>Carcinogenicity</b>	IARC: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>Reproductive toxicity</b>	no data available
<b>Specific target organ toxicity - single exposure</b>	no data available
<b>Specific target organ toxicity - repeated exposure</b>	: no data available
<b>Aspiration hazard</b>	: no data available
<b>Potential health effects</b>	
<b>Inhalation</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Ingestion</b>	May be harmful if swallowed. Causes burns.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin burns.
<b>Eyes</b>	Causes eye burns.
<b>Signs and Symptoms of Exposure</b>	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Cough, shortness of breath, headache, nausea.
<b>Additional Information</b>	RTECS: Not available

## 12.0 Ecological Information

<b>12.1 Toxicity</b>	no data available
<b>12.2 Persistence and degradability</b>	no data available
<b>12.3 Bioaccumulative potential</b>	no data available

- 12.4 Mobility in soil**  
no data available
- 12.5 Results of PBT and vPvB assessment**  
no data available
- 12.6 Other adverse effects**  
no data available

### **13.0 Disposal Consideration**

- 13.1 Waste treatment methods**  
**Product**  
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
- Contaminated packaging**  
Dispose of as unused product.

### **14.0 Transport Information**

- 14.1 UN-Number**  
3148
- 14.2 UN proper shipping name**  
Water-reactive liquid, n.o.s. (Catecholborane)
- 14.3 Transport hazard class(es)**  
GGVS/GGVE/ADR/RID: 4.3, Hazard Identification: X323, Classification: W1, Tunnel code: (B/E)  
IMO/GGVSee: 4.3, MFAG: 4.2, EmS: F-G. S-N, Stowage: E  
ICAO/IATA: 4.3, PAX: F, CAO: 480
- 14.4 Packaging group**  
GGVS/GGVE/ADR/RID: I      IMO/GGVSee: I      ICAO/IATA: I
- 14.5 Environmental hazards**  
GGVS/GGVE/ADR/RID: No      IMO/GGVSee: No      ICAO/IATA: No
- 14.6 Special precautions for user**  
See section 7.0
- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**  
The substance is not intended to be transported in bulk.

### **15.0 Regulatory Information**

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
no data available
- 15.2 Chemical Safety Assessment**  
no data available

### **16.0 Other Information**

THIS INFORMATION IS THE BEST OF OUR KNOWLEDGE AND IS INTENDED TO DESCRIBE THE PRODUCT ONLY IN TERMS OF HEALTH AND SAFETY AND ENVIRONMENTAL REQUIREMENTS. SINCE THE CONDITIONS OF USE ARE OUTSIDE OUR CONTROL, ANY RECOMMENDATIONS OR SUGGESTIONS ARE MADE WITHOUT GUARANTEE AND WE DO NOT BEAR ANY LIABILITY FOR LOSS OR DAMAGE SUFFERED FROM USE OF THIS INFORMATION. CUSTOMERS MUST SATISFY THEMSELVES THAT THE PRODUCT IS SUITABLE FOR A PARTICULAR PURPOSE. MOREOVER, NEITHER OF THE CLAUSES HEREIN CONTAINED SHALL BE CONSTRUED AS A RECOMMENDATION TO USE ANY PRODUCT IN CONFLICT WITH EXISTING PATENTS. THIS INFORMATION IS GIVEN WITHOUT ANY WARRANTIES WITH RESPECT TO THE PROPERTIES OF THIS PRODUCT.