

Decaborane (14) : sc-255069



The Power to Question

MATERIAL SAFETY DATA SHEET

1 Identification of substance:

Product Name: Decaborane (14)
Catalog Number: sc-255069
Supplier: Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800
Emergency: ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255
(1-800-CHEMCALL) or call +613 9573 3112

2 Hazard(s) identification

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008



GHS02 Flame

Flam. Sol. 1 H228 Flammable solid.



GHS06 Skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.
Acute Tox. 2 H310 Fatal in contact with skin.
Acute Tox. 2 H330 Fatal if inhaled.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T+; Very toxic

R26: Very toxic by inhalation.



T; Toxic

R24/25: Toxic in contact with skin and if swallowed.



F; Highly flammable

R11: Highly flammable.

Information concerning particular hazards for human and environment: Not applicable
Hazards not otherwise classified No information known.

Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labeled according to the CLP regulation.

Hazard pictograms



GHS02



GHS06

Signal word Danger

Hazard statements

H228 Flammable solid.
H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...
P320 Specific treatment is urgent (see on this label).
P361 Take off immediately all contaminated clothing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

B4 - Flammable solid
D1A - Very toxic material causing immediate and serious toxic effects



Classification system

HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)

HEALTH	2
FIRE	2
REACTIVITY	1

Health (acute effects) = 2
Flammability = 2
Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

CAS# Description:

17702-41-9 Decaborane

Identification number(s):

EC number: 241-711-8

4 First-aid measures

Description of first aid measures

General information

Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing has been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Do not induce vomiting; immediately call for medical help.

Information for doctor

Most important symptoms and effects, both acute and delayed

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents CO₂, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents Halogenated extinguisher

Special hazards arising from the substance or mixture

Contact with water releases hydrogen (explosive).

If this product is involved in a fire, the following can be released:

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach sewage system or any water course.

Do not allow to penetrate the ground/soil.

Methods and material for containment and cleaning up:

Keep away from ignition sources.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Prevention of secondary hazards: Keep away from ignition sources.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Handling

Precautions for safe handling

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Open and handle container with care.

Information about protection against explosions and fires:

Protect from humidity and water.

Protect against electrostatic charges.

Keep ignition sources away.

Conditions for safe storage, including any incompatibilities

Storage Store at room temperature.

Requirements to be met by storerooms and receptacles: Store in a cool location.

Information about storage in one common storage facility: Store away from oxidizing agents.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:

Decaborane

	ppm
ACGIH TLV	0.05; 0.15-STEL (skin)
Austria TWA	0.05 (skin)
Belgium TWA	0.05; 0.15-STEL (skin)
Denmark TWA	0.05 (skin)
Finland TWA	0.05; 0.15-STEL (skin)
France TWA	0.05 (skin)
Germany TWA	0.05
Hungary TWA	0.3; 0.6-STEL (skin)
Ireland TWA	0.05; 0.15-STEL (skin)
Netherlands TWA	0.05 (skin)
Switzerland TWA	0.05; 0.1-STEL (skin)
USA PEL	0.05 (skin)

17702-41-9 Decaborane (100.0%)

PEL (USA)	Long-term value: 0.3 mg/m ³ , 0.05 ppm Skin
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REL (USA)	Short-term value: 0.9 mg/m ³ , 0.15 ppm Long-term value: 0.3 mg/m ³ , 0.05 ppm Skin
TLV (USA)	Short-term value: 0.75 mg/m ³ , 0.15 ppm Long-term value: 0.25 mg/m ³ , 0.05 ppm Skin
EL (Canada)	Short-term value: 0.15 ppm Long-term value: 0.05 ppm Skin
EV (Canada)	Short-term value: 0.75 mg/m ³ , 0.15 ppm Long-term value: 0.25 mg/m ³ , 0.05 ppm Skin

Additional information: No data

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Breathing equipment:

Use self-contained respiratory protective device in emergency situations.

Protection of hands:

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties	
General Information	
Appearance:	
Form:	Powder
Formula:	B10H14
Weight:	122.22
pH-value:	Not applicable.
Change in condition	
Melting point/Melting range:	99-103 °C (210-217 °F)
Boiling point/Boiling range:	213 °C (415 °F)
Sublimation temperature / start:	Not determined
Flash point:	80 °C (176 °F)
Flammability (solid, gaseous)	Highly flammable.
Ignition temperature:	149 °C (300 °F) ((in oxygen))
Decomposition temperature:	Not determined
Auto igniting:	Not determined.
Danger of explosion:	Not determined.
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure at 100 °C (212 °F):	25 hPa (19 mm Hg)
Density at 20 °C (68 °F):	0.94 g/cm ³ (7.844 lbs/gal)
Relative density	Not determined.
Vapor density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with	
Water:	Not determined
Chlorinated hydrocarbons:	Violent reaction
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
dynamic:	Not applicable.

kinematic:	Not applicable.
Other information	No further relevant information available.

10 Stability and reactivity

Reactivity No information known.

Chemical stability Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions May form shock sensitive compounds

Incompatible materials:

Oxidizing agents

Halocarbons

Hydrocarbons

Hazardous decomposition products: Hydrogen

11 Toxicological information

Information on toxicological effects

Acute toxicity:

Danger through skin absorption.

Fatal in contact with skin.

Fatal if swallowed.

Fatal if inhaled.

LD/LC50 values that are relevant for classification: No data

Skin irritation or corrosion: Irritant to skin and mucous membranes.

Eye irritation or corrosion: Irritating effect.

Sensitization: No sensitizing effects known.

Germ cell mutagenicity: No effects known.

Carcinogenicity:

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity: No effects known.

Specific target organ system toxicity - repeated exposure: No effects known.

Specific target organ system toxicity - single exposure: No effects known.

Aspiration hazard: No effects known.

Subacute to chronic toxicity:

Boron affects the central nervous system. Boron poisoning causes depression of the circulation, persistent vomiting and diarrhea, followed by profound shock and coma. The temperature may become subnormal and a scarletina form rash may cover the entire body. Decaborane is toxic by ingestion, inhalation and skin absorption. Effects of overexposure include nausea, dizziness, headache, muscular tremors, convulsions and damage to the liver and kidneys.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Additional ecological information:

General notes:

Do not allow material to be released to the environment without proper governmental permits. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Avoid transfer into the environment.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations




Waste treatment methods

Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number DOT, ADR, IMDG, IATA	UN1868
UN proper shipping name DOT ADR IMDG, IATA	Decaborane 1868 Decaborane DECABORANE
Transport hazard class(es) DOT	
	
Class	4.1 Flammable solids, self-reactive substances and solid desensitised explosives.
Label ADR	4.1+6.1
	
Class	4.1 (FT2) Flammable solids, self-reactive substances and solid desensitised explosives
Label IMDG, IATA	4.1+6.1
	
Class	4.1 Flammable solids, self-reactive substances and solid desensitised explosives.
Label	4.1+6.1
Packing group DOT, ADR, IMDG, IATA	II
Environmental hazards:	Not applicable.
Special precautions for user	Warning: Flammable solids, self-reactive substances and solid desensitised explosives
Danger code (Kemler):	46
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT Marine Pollutant (DOT):	No
UN "Model Regulation":	UN1868, Decaborane, 4.1 (6.1), II

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

SARA Section 313 (specific toxic chemical listings) Substance is not listed.

California Proposition 65

Prop 65 - Chemicals known to cause cancer Substance is not listed.

Prop 65 - Developmental toxicity Substance is not listed.

Prop 65 - Developmental toxicity, female Substance is not listed.

Prop 65 - Developmental toxicity, male Substance is not listed.

Information about limitation of use: For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations

Substances of very high concern (SVHC) according to REACH, Article 57

Substance is not listed.

REACH - Pre-registered substances Substance is listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information:

The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.

2/21/2014