

Material Safety Data Sheet

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Version 1.4

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	9-BBN, 0.5M SOLUTION IN TETRAHYDROFURAN (9-BORABICYCLO(3.3.1)NONANE)
Product Number	151076
Company	Sigma-Aldrich Pty. Ltd. 12 Anella Avenue Castle Hill NSW 2154 Australia
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2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number	
9-BBN, 0.5M SOLUTION IN TETRAHYDROFURAN	None	None	None	
Ingredient Name	Percent	CAS #	EC no	Annex I Index Number
TETRAHYDROFURAN (Inhibitor free)	93.14	109-99-9	203-726-8	603-025-00-0
Symbols: F Xi				
R-Phrases: 11 19 36/37				
Highly flammable. May form explosive peroxides. Irritating to eyes and respiratory system.				
9-BBN, CRYSTALLINE	6.86	280-64-8	206-000-9	None
Symbols: F				
R-Phrases: 11 14/15				
Highly flammable. Reacts violently with water, liberating extremely flammable gases.				
Molecular Weight 122.02 AMU				

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Highly flammable. Reacts violently with water, liberating
extremely flammable gases. May form explosive peroxides.
Irritating to eyes and respiratory system.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If breathing becomes difficult,

call a physician.

AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious amounts of water.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

Unsuitable: Do not use water.

SPECIAL RISKS

Specific Hazard(s): Flammable liquid. Vapor may travel considerable distance to source of ignition and flash back. Emits toxic fumes under fire conditions. Water reactive material. Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions. Material readily reacts with water generating flammable and/or explosive hydrogen gas

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed. Keep away from heat, sparks, and open flame.

Incompatible Materials: Do not allow contact with water

SPECIAL REQUIREMENTS: Handle and store under inert gas. May develop pressure. Open carefully.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Liquid
	Color: Colorless

Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Flash Point	-17.2 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	0.894 g/cm3	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	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	

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions to Avoid: Heat. Air.

Materials to Avoid: Reacts violently with: , Water, Acids, Alcohols, Oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Boron oxides, Liberates flammable/explosive hydrogen gas.

HAZARDOUS POLYMERIZATION

11 - Toxicological Information

SIGNS AND SYMPTOMS OF EXPOSURE

Can cause CNS depression. Exposure can cause: Narcotic effect. Coughing, chest pains, difficulty in breathing. Nausea, dizziness, and headache. Unconsciousness. Prolonged or repeated exposure to skin causes defatting and dermatitis.

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes eye irritation.
Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.
Ingestion: Harmful if swallowed.

TARGET ORGAN INFORMATION

Central nervous system. Liver. Kidneys.

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 3399
Class: 4.3
PG: I
Proper Shipping Name: Organometallic substance,
liquid, water-reactive, flammable

IMDG

UN#: 3399
Class: 4.3
PG: I
Subrisk: 3
Proper Shipping Name: Organometallic substance,
liquid, water-reactive, flammable
Marine Pollutant: No
Severe Marine Pollutant: No
Technical Name: Required

IATA

UN#: 3399
Class: 4.3
PG: I

Subrisk: 3
Proper Shipping Name: Organometallic substance,
liquid, water-reactive, flammable
Inhalation Packing Group I: No
Technical Name: Required

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: F Xi

Highly Flammable. Irritant.

R-PHRASES: 11 14/15 19 36/37

Highly flammable. Reacts violently with water, liberating
extremely flammable gases. May form explosive peroxides.

Irritating to eyes and respiratory system.

S-PHRASES: 16 26 33 43

Keep away from sources of ignition - no smoking. In case of
contact with eyes, rinse immediately with plenty of water and
seek medical advice. Take precautionary measures against static
discharges. In case of fire, use dry powder. Never use water.

16 - Other Information

WARRANTY

The above information is believed to be correct but does not
purport to be all inclusive and shall be used only as a guide. The
information in this document is based on the present state of our
knowledge and is applicable to the product with regard to
appropriate safety precautions. It does not represent any
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