

OTTO CHEMIE PVT LTD

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ISO 9001: 2015

MATERIAL SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Sodium borohydride, 97%

Code S 1745

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Substances and mixtures which in contact with water emit flammable gases (Category 1),

H260

Acute toxicity, Oral (Category 3), H301

Skin corrosion (Sub-category 1B), H314

Serious eye damage (Category 1), H318

Reproductive toxicity (Category 1B), H360FD

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

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal word Danger

Hazard statement(s)

H260 In contact with water releases flammable gases which may ignite spontaneously.

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

H360FD May damage fertility. May damage the unborn child.

Precautionary statement(s)

P231 + P232 Handle and store contents under inert gas. Protect from moisture.

P260 Do not breathe dusts or mists.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard information (EU)

EUH014 Reacts violently with water.

Reduced Labeling (<= 125 ml)

Pictogram

Signal word Danger

Hazard statement(s)

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

H360FD May damage fertility. May damage the unborn child.

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P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard information (EU)

EUH014 Reacts violently with water.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : Sodium tetrahydridoborate

VenPure®

Formula : H4BNa

Molecular weight : 37,83 g/mol

CAS-No. : 16940-66-2

EC-No. : 241-004-4

Component	Classification	Concentration
sodium borohydride CAS-No. 16940-66-2	Water-react 1; Acute Tox 3; Skin Corr. 1B; Eye Dam. 1; Repr. 1B; H260, H301, H314, H318, H360FD Concentration limits: ≥ 3,4 %: Repr. 1B, H360F; EC-No. 241-004-4	≤ 100 %

SECTION 4: First aid measures

4.1 Description of first-aid measures

No data available

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Sand Dry powder Cement

Unsuitable extinguishing media

Water Carbon dioxide (CO₂) Foam

5.2 Special hazards arising from the substance or mixture

Borane/boron oxides

Sodium oxides

Not combustible.

5.3 Advice for firefighters

No data available

5.4 Further information

No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For personal protection see section 8.

6.2 Environmental precautions

No data available

6.3 Methods and materials for containment and cleaning up

No data available

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Air and moisture sensitive. Store under inert gas.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

Control of environmental exposure

Prevent product from entering drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance

Form: solid

Color: white

b) Odor

amine-like

c) Odor Threshold

No data available

d) pH

No data available

e) Melting

point/freezing point

Melting point/range: > 300 °C - dec.

f) Initial boiling point

and boiling range

> 400 °C at ca. 1.013 hPa - OECD Test Guideline 103

g) Flash point

69 °C - closed cup

h) Evaporation rate

No data available

i) Flammability (solid,

gas)

No data available

j) Upper/lower

flammability or

explosive limits

Lower explosion limit: 3,02 %(V)

k) Vapor pressure

< 1 hPa at 25 °C - OECD Test Guideline 104

l) Vapor density

1,3

m) Relative density

1,07 g/cm³ at 20 °C -

n) Water solubility

Decomposes in contact with water., Risk of violent reaction.

o) Partition coefficient:

n-octanol/water

- Not applicable for inorganic substances

p) Autoignition

temperature

> 400 °C

at 1.013 hPa - Relative self-ignition temperature for solids

q) Decomposition

temperature

No data available

r) Viscosity

Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

s) Explosive properties

No data available

t) Oxidizing properties

No data available

9.2 Other safety information

Relative vapor

density

1,3

SECTION 10: Stability and reactivity

10.1 Reactivity

Reacts violently with water.

10.2 Chemical stability

No data available

10.3 Possibility of hazardous reactions

Risk of explosion with:

Water
Alcohols
(generation of hydrogen)
Copper
Nickel
in finely distributed form.
aluminium chloride
metallic salts
phenol
Strong oxidizing agents
polymerisable substances
hydrogen peroxide
Powdered metals
acids
Risk of ignition or formation of inflammable gases or vapours with:
carbon/soot
Exothermic reaction with:
phosphoric acid
conc. sulfuric acid
Dimethylformamide
10.4 Conditions to avoid
No data available
10.5 Incompatible materials
No data available
10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute toxicity estimate Oral - 162 mg/kg
(Calculation method)

LD50 Oral - Rat - female - 56,57 mg/kg
(OECD Test Guideline 425)

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

LC50 Inhalation - Rat - male - 4 h - > 1,3 mg/l

Remarks:

(highest concentration to be prepared)

(ECHA)

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages: damage of respiratory tract

Acute toxicity estimate Dermal - 230 mg/kg
(Calculation method)

LD50 Dermal - Rabbit - male - 4.000 - 8.000 mg/kg

Remarks:

(External MSDS)

Skin corrosion/irritation

Skin - Rabbit

(OECD Test Guideline 404)

Remarks:

(Test in mixture)

Serious eye damage/eye irritation

Causes serious eye damage. Risk of corneal clouding.

Respiratory or skin sensitization

Sensitisation test: - Guinea pig

Result: negative

Remarks:

(External MSDS)

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

May damage the unborn child.

May damage fertility.

Specific target organ toxicity - single exposure

No data available

Acute oral toxicity - If ingested, severe burns of the mouth and throat, as well as a danger

of perforation of the esophagus and the stomach.
Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath, Possible damages: damage of respiratory tract
Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

RTECS: ED3325000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Decomposition of the substance with tissue moisture.

After absorption:

CNS disorders

Headache

Other information

The following applies to boron compounds in general: resorption is followed by nausea and vomiting, agitation, spasms, CNS disorders, cardiovascular disorders.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish LC50 - Danio rerio (zebra fish) - > 100 mg/l - 96 h

Remarks: (External MSDS)

Toxicity to bacteria

12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Forms toxic mixtures in water, dilution measures notwithstanding.

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1426 IMDG: 1426 IATA: 1426

14.2 UN proper shipping name

ADR/RID: SODIUM BOROHYDRIDE

IMDG: SODIUM BOROHYDRIDE

IATA: Sodium borohydride

Passenger Aircraft: Not permitted for transport

14.3 Transport hazard class(es)

ADR/RID: 4.3 IMDG: 4.3 IATA: 4.3

14.4 Packaging group

ADR/RID: I IMDG: I IATA: I

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No.

1907/2006.

REACH - Restrictions on the manufacture,
placing on the market and use of certain
dangerous substances, preparations and articles
(Annex XVII)

:

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the
control of major-accident hazards involving dangerous substances.

H2 ACUTE TOXIC

O1 OTHER HAZARDS

O2 OTHER HAZARDS

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

