

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)
according to Regulation (EU) No. 2020/878



Trade name : 111530 - Sodium borohydride powder
Revision date : 04/11/2022 **Version (Revision) :** 2.0.0 (1.0.0)
Print date : 13/03/2023

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

1.1 Product identifier

Sodium borohydride powder (111530)
Sodium borohydride ; CAS No. : 16940-66-2 ; EC No. : 241-004-4 ; REACH No. : 01-2119485016-39-XXXX

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

For manufacturing, processing, laboratory or repacking use only.

Uses advised against

Uses other than those recommended.

1.3 Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor)

DC Fine Chemicals Ltd

Street : 88 Hill Top

Postal code/City : NW11 6DY London United Kingdom

Telephone : +44 (0)20 7586 6800

Telefax : +44 (0)20 7504 1701

Information contact : info@dcfinechemicals.com

1.4 Emergency telephone number

(Only available during office hours; Monday-Friday; 08:00-18:00)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Water-react. 1 ; H260 - Substances or mixtures which, in contact with water, emit flammable gases : Category 1 ; In contact with water releases flammable gases which may ignite spontaneously.

Acute Tox. 3 ; H301 - Acute toxicity (oral) : Category 3 ; Toxic if swallowed.

Skin Corr. 1B ; H314 - Skin corrosion/irritation : Category 1B ; Causes severe skin burns and eye damage.

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms



Flame (GHS02) · Skull and crossbones (GHS06) · Corrosion (GHS05)

Signal word

DANGER

Hazard statements

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

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P264 Wash thoroughly after handling.

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

P310 Immediately call a POISON CENTER/doctor.

P321 Specific treatment (see on this label).

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+P352 IF ON SKIN: Wash with plenty of water.

2.3 Other hazards

This substance/mixture contains no components considered to be 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

Substance name : Sodium borohydride

EC No. : 241-004-4

REACH No. : 01-2119485016-39-XXXX

CAS No. : 16940-66-2

Purity : 100 % [mass]

SECTION 4: First aid measures

Immediate medical attention is required. Delayed effects may occur after the exposure to the product.

4.1 Description of first aid measures

Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with plenty of water and soap. In case of skin reactions, consult a physician. After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. If accidentally ingested, seek immediate medical attention, NEVER induce vomiting. Remove victim out of the danger area. In case of inhalation take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration. When in doubt or if symptoms are observed, get medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Contact with eyes or skin can cause burns; ingestion or inhalation can cause internal damage, if this occurs immediate medical assistance is required. Do NOT induce vomiting. Never give anything by mouth to an unconscious person or a person with cramps. Accidental contact may result in serious respiratory difficulties, alteration of the central nervous system and in extreme cases, unconsciousness.

4.3 Indication of any immediate medical attention and special treatment needed

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

SECTION 5: Firefighting measures

The product is Highly flammable, it can cause or considerably worsen a fire, the necessary prevention measures should

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be taken and risks avoided. In case of fire, the following measures are recommended:

5.1 Extinguishing media

Suitable extinguishing media

Extinguisher powder or CO₂. In case of more serious fires, also alcohol-resistant foam and water spray.

Unsuitable extinguishing media

Do not use a direct stream of water to extinguish. In the presence of electrical voltage, you cannot use water or foam as extinguishing media.

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated: Pyrolysis products, toxic Special risks: Fire can cause thick, black smoke. As a result of thermal decomposition, dangerous products can form: carbon monoxide, carbon dioxide. Exposure to combustion or decomposition products can be harmful to your health.

5.3 Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Do not inhale explosion and combustion gases. In case of fire: Wear self-contained breathing apparatus. Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways.

Special protective equipment for firefighters

According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and boots.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Clear spills immediately.

For non-emergency personnel

Wear a self-contained breathing apparatus and chemical protective clothing. Remove persons to safety.

For emergency responders

Eliminate possible ignition points and ventilate the area. No smoking. Avoid breathing fumes. For exposure control and individual protection measures, see section 8.

6.2 Environmental precautions

Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities. Retain contaminated washing water and dispose it.

6.3 Methods and material for containment and cleaning up

For containment

Collect in closed and suitable containers for disposal.

For cleaning up

The contaminated area should be cleaned up immediately with: Water Soak up inert absorbent and dispose as waste requiring special attention. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Avoid dust formation. Clear spills immediately.

6.4 Reference to other sections

Reference to other sections Disposal: see section 13 Personal protection equipment: see section 8

SECTION 7: Handling and storage

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7.1 Precautions for safe handling

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

Protective measures

When using do not eat, drink, smoke, sniff.



to section 8).

Wear personal protection equipment (refer

Measures to prevent aerosol and dust generation

Vapours can form explosive mixtures with air. Take precautionary measures against static discharges. Use only in well-ventilated areas. Do not breathe the gas/fumes/vapour/spray. Do not breathe dust.

Environmental precautions

Use appropriate container to avoid environmental contamination.

Specific requirements or handling rules

Handle and open container with care.

Advices on general occupational hygiene

Take care for general good hygiene and housekeeping.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Storage temperature :

Keep in a cool, well-ventilated place. Keep away from sources of ignition - No smoking.

Requirements for storage rooms and vessels

Only use containers specifically approved for the substance/product.

Hints on joint storage

Store at least 3 metres apart from: Chemicals/products that react together readily Protect against Humidity, UV-radiation/sunlight

Storage class (TRGS 510) : 4.3

Further information on storage conditions

Storage stability : Handle and store under inert gas

7.3 Specific end use(s)

None

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

None

8.2 Exposure controls

Only wear fitting, comfortable and clean protective clothing.

Personal protection equipment

Eye/face protection

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Eye glasses with side protection Face protection shield EN 166

Skin protection

Hand protection



Tested protective gloves must be worn EN ISO 374 The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Body protection

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes). Wear anti-static footwear and clothing Wash contaminated clothing prior to re-use.



Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.



The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used. Particle filter device (EN 143).

Thermal hazards

No special measures are necessary.

Environmental exposure controls

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : solid

Safety characteristics

Melting point/freezing point :	(1013 hPa)	400 °C
Initial boiling point and boiling range :	(1013 hPa)	500 °C
Decomposition temperature :	(1013 hPa)	No data available
Flash point :		69 °C
Auto-ignition temperature :		220 °C
Lower explosion limit :		3.02 Vol-%
Upper explosion limit :		No data available

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Vapour pressure :	(50 °C)	No data available	
Density :	(20 °C)	1.07	g/cm ³
Solvent separation test :	(20 °C)	not applicable	
Water solubility :	(20 °C)	550	g/l
Fat solubility :	(20 °C)	No data available.	
pH :	(20 °C / 10 g/l)	11	
log P O/W :		No data available	
Flow time :	(20 °C)	No data available	DIN- cup 4 mm
Viscosity :	(20 °C)	No data available	
Relative vapour density :	(20 °C)	No data available	
Evaporation rate :		No data available	
Flammable solids :	No data available.		
Flammable gases :	No data available.		
Explosive properties :	No data available.		

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

The product does not present hazards by their reactivity.

10.2 Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature. Safe handling: see section 7

10.3 Possibility of hazardous reactions

The product does not present possibility of hazardous reactions.

10.4 Conditions to avoid

Avoid any improper handling.

10.5 Incompatible materials

Keep away from oxidising agents and from highly alkaline or acidic materials in order to prevent exothermic reactions.

10.6 Hazardous decomposition products

In case of fire may be liberated: Hazardous combustion products

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Acute oral toxicity

Parameter :	LD50 (Sodium borohydride ; CAS No. : 16940-66-2)
Exposure route :	Oral
Species :	Rat
Effective dose :	160 mg/kg

Acute dermal toxicity

Parameter :	LD50 (Sodium borohydride ; CAS No. : 16940-66-2)
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Exposure route : Dermal
Species : Rabbit
Effective dose : 230 mg/kg

Corrosion

Skin corrosion/irritation

No information available.

Serious eye damage/eye irritation

No information available.

Respiratory or skin sensitisation

No information available.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

No information available.

Germ cell mutagenicity

No information available.

Reproductive toxicity

No information available.

STOT-single exposure

No information available.

STOT-repeated exposure

No information available.

Aspiration hazard

No information available.

11.2 Information on other hazards

No information available.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

Acute (short-term) fish toxicity

Parameter : LC50 (Sodium borohydride ; CAS No. : 16940-66-2)
Species : Danio rerio
Evaluation parameter : Acute (short-term) fish toxicity
Effective dose : 100 mg/l
Exposure time : 96 hour(s)

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

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12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation. Follow the provisions of Directive 2008/98/EC regarding waste management. Follow the provisions of Directive 2008/98/EC regarding waste management.

Product/Packaging disposal

Waste treatment options

Recycle according to official regulations. Evidence for disposal must be provided.

Appropriate disposal / Product

Dispose of waste according to applicable legislation.

Appropriate disposal / Package

Non-contaminated packages must be recycled or disposed of. Contaminated packages must be completely emptied and can be re-used following proper cleaning. Packing which cannot be properly cleaned must be disposed of. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

14.1 UN number

UN 1426

14.2 UN proper shipping name

Land transport (ADR/RID)

SODIUM BOROHYDRIDE

Sea transport (IMDG)

SODIUM BOROHYDRIDE

Air transport (ICAO-TI / IATA-DGR)

SODIUM BOROHYDRIDE

14.3 Transport hazard class(es)

Land transport (ADR/RID)

Class(es) : 4.3
Classification code : W2
Tunnel restriction code : E
Special provisions : LQ 0 · E 0
Hazard label(s) : 4.3

Sea transport (IMDG)

Class(es) : 4.3
EmS-No. : F-G / S-O
Special provisions : LQ 0 · E 0 · IMDG-Code segregation group 26 · IMDG-Code segregation group 35
Hazard label(s) : 4.3

Air transport (ICAO-TI / IATA-DGR)

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Class(es) : 4.3
Special provisions : E 0
Hazard label(s) : 4.3

14.4 Packing group

I

14.5 Environmental hazards

Land transport (ADR/RID) : No

Sea transport (IMDG) : No

Air transport (ICAO-TI / IATA-DGR) : No

14.6 Special precautions for user

Hazard label(s) :



14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

No information available.

SECTION 15: Regulatory information

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

Safety Data Sheet According to Regulation (EC) No. 1907/2006 (REACH) Classification according to Regulation (EC) No 1272/2008 [CLP] according to Regulation (EU) No. 2020/878

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]

Hazard categories	H2 - ACUTE TOXIC 2
Lower-tier requirements (t)	50
Upper-tier requirements (t)	200
Hazard categories	O2 - SUBSTANCES AND MIXTURES WHICH IN CONTACT WITH WATER EMIT FLAMMABLE GASES, CATEGORY 1
Lower-tier requirements (t)	100
Upper-tier requirements (t)	500

EU legislation

Authorisations and/or restrictions on use

Restrictions on use

Regulation (EC) No. 1907/2006 (REACH), Annex XVII (restrictions)

Use restriction according to REACH annex XVII, no. : 3

National regulations

Water hazard class

Class : nwg (Non-hazardous to water)

15.2 Chemical Safety Assessment

No information available.

SECTION 16: Other information

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16.1 Indication of changes

None

16.2 Abbreviations and acronyms

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM:	ASTM International, originally known as American Society for Testing and Materials (ASTM)
EINECS:	European Inventory of Existing Commercial Chemical Substances
EC50:	Effective Concentration 50 (Maximum Effective Concentration for 0% of Individuals)
LC50:	Lethal Concentration 50 (Lethal Concentration for 50% of Individuals)
IC50:	Inhibitor Concentration 50 (Inhibitory Concentration for 50% of Individuals)
NOEL:	No Observed Effect Level (Maximum dose without effect)
DNEL:	Derived No Effect Level (Derived no-effect dose)
DMEL:	Derived Minimum Effect Level (Derived dose of minimal effect)
CLP:	Classification, Labelling and Packaging
CSR:	Chemical Safety Report
LD50:	Lethal Dose 50 (Lethal Dose for 50% of Individuals)
IATA:	International Air Transport Association
ICAO:	International Civil Aviation Organization
Codice IMDG:	International Maritime Dangerous Goods code
PBT:	Persistent, bioaccumulative and toxic
RID:	Regulations concerning the international rail transport of Dangerous Goods
STEL:	Short term exposure limit
TLV:	Threshold limit value
TWA:	Time Weighted Average
UE:	European Union
vPvB:	Very persistent very bioaccumulative
N.D.:	Unavailable
N.A.:	Not applicable
VvVWS.:	Text of Administrative Regulation on the Classification of Substances hazardous to waters into Water Hazard Classes

16.3 Key literature references and sources for data

None

16.4 Relevant H- and EUH-phrases (Number and full text)

H260	In contact with water releases flammable gases which may ignite spontaneously.
H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.

16.5 Training advice

None

16.6 Additional information

None

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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