Date of issue: 2017/08/02
Date of revision: 2021/11/12

Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product identifier:
- Product name: Sodium tetrahydroborate
- SDS No. : 7114E-3

Details of the supplier of the safety data sheet
- Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
- Address: 3-1, Honmachibashi, Chuo-ku,Osaka ,JAPAN
- Division: Chemical Safety Management Department
- Telephone number: +81-6-6946-8061
- FAX: +81-6-6946-1607
- e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS
- Substances and mixtures which, in contact with water, emit flammable gases: Category 1

HEALTH HAZARDS
- Acute toxicity (Oral): Category 3
- Skin corrosion/irritation: Category 1
- Serious eye damage/eye irritation: Category 1
- Specific target organ toxicity - single exposure: Category 3 (Respiratory tract irritation)

Label elements

Signal word: Danger

HAZARD STATEMENT
- In contact with water releases flammable gases which may ignite spontaneously
- Toxic if swallowed
- Causes severe skin burns and eye damage
- May cause respiratory irritation

PRECAUTIONARY STATEMENT

Prevention
- Do not allow contact with water.
- Handle and store contents under inert gas/appropriate liquid or gas. Protect from moisture.
- Do not breathe dust/fume/gas/mist/vapors/spray.
- Use only outdoors or in a well-ventilated area.
- Wash contaminated parts thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Do not eat, drink or smoke when using this product.

Response
- In case of fire: Use appropriate media other than water to extinguish.
- Call a POISON CENTER/doctor/physician if you feel unwell.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- IF ON SKIN: Brush off loose particles from skin. Immerse in cool water.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water

or shower.
Wash contaminated clothing before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage
Store in a well-ventilated place. Keep container tightly closed.
Store in a dry place. Store in a closed container.

Disposal
Dispose of contents/container in accordance with local/national regulation.

Specific Physical and Chemical hazards
May catch fire or form flammable gas in contact with water.

3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:Sodium tetrahydroborate
Content (%):97(min)
Chemical formula:NaBH4
Chemicals No, Japan:1-61
CAS No.:16940-66-2
MW:37.83
ECNO:241-004-4

Note : The figures shown above are not the specifications of the product.

4. First-aid measures

Descriptions of first-aid measures

IF INHALED
Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN (or hair)
Take off immediately all contaminated clothing. Rinse skin with water or shower.
IF ON SKIN: Brush off loose particles from skin. Immerse in cool water.
If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

IF SWALLOWED
Rinse mouth. Do NOT induce vomiting.
Immediately call a POISON CENTER/doctor/physician.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
In case of fire, use dry powder, dry sand to extinguish.

Unsuitable extinguishing media
Indoor firefighting equipment or outdoor firefighting equipment
Sprinkler equipment
Moisture firefighting equipment or water spray firefighting equipment

Foam firefighting equipment
Inactive gas firefighting equipment
Halogenated firefighting system
Dry-powder firefighting equipment - phosphate etc.
Straight stream water extinguisher
Water mist extinguisher
Reinforcing liquid jet extinguisher
Misty reinforcing liquid extinguisher
Foam extinguisher
Carbon dioxide extinguisher
Halogenated extinguisher
Dry-powder extinguisher - phosphate etc.
Bucket of water or tank of water

Specific hazards arising from the substance or mixture

Containers may explode when heated.
Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.
Wear protective gloves/protective clothing/eye protection/face protection.
Firefighters should wear self-contained breathing apparatus with full face peace operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.
Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.
Avoid raising dust.

Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Do not allow contact with water.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.
Avoid contact with eyes.

Safety Measures

Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Handle and store contents under inert gas/appropriate liquid or gas. Protect from moisture.
When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wash contaminated clothing before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.
Store in a dry place. Store in a closed container.
Store in a cool, dry place. Do not store in direct sunlight.

Container and packaging materials for safe handling

Glass
Polyethylene

8. Exposure controls/personal protection

Control parameters

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.
Eye wash station should be available.
Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Crystals or granular, crystalline powder
Color: White
Odor data is not available.
Melting point/Freezing point: (decomposes) > 250℃
Boiling point or initial boiling point data is not available.
Boiling range data is not available.
Flammability (gases, liquids and solids) data is not available.
Lower and upper explosion limit/flammability limit:

Lower explosion limit: 3.02 vol %

Flash point data is not available.
Auto-ignition temperature: (Sodium tetrahydroborate)220℃
Decomposition temperature data is not available.
pH data is not available.
Kinematic viscosity data is not available.
Solubility:

Solubility in water: 55g/100ml (25℃)

n-Octanol/water partition coefficient data is not available.
Vapor pressure data is not available.
Density and/or relative density: 1.07 g/cm3
Relative vapor density (Air=1) data is not available.
Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity
Not available.
Chemical stability
Stable under normal storage/handling conditions.
Possibility of hazardous reactions
Decomposes on heating and on contact with acids, powdered metals, water and moisture. This produces flammable/explosive gas (hydrogen). The substance is a strong reducing agent. It reacts violently with oxidants. This generates fire and explosion hazard. (ICSC 1670)
Conditions to avoid
Contact with incompatible materials.
Contact with fire source.
Incompatible materials
Oxidizing agents, Powdered metals, Water
Hazardous decomposition products
Hydrogen, Boron compounds

11. Toxicological Information

Information on toxicological effects
Acute toxicity
Acute toxicity (Oral)
[GHS Cat. Japan, base data]
(Sodium tetrahydroborate)
rat LD50=160mg/kg (HSDB, 2006)
Irritant properties
Skin corrosion/irritation
[GHS Cat. Japan, base data]
(Sodium tetrahydroborate)
human corrosive (IUCLID, 2000 et al)
Serious eye damage/irritation
[GHS Cat. Japan, base data]
(Sodium tetrahydroborate)
human corrosive (IUCLID, 2000 et al)
Allergenic and sensitizing effects data is not available.
Mutagenic effects data is not available.
Carcinogenic effects data is not available.
Reproductive toxicity data is not available.
STOT
STOT-single exposure
[cat.3 (resp. irrit.)]
[GHS Cat. Japan, base data]
(Sodium tetrahydroborate)
respiratory tract irritation (HSDB, 2008)
STOT-repeated exposure data is not available.
Aspiration hazard data is not available.
Information on other hazards

May cause lung disorders by massive inhalation of powdered substance.
-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

12. Ecological Information

Ecotoxicity

Ecotoxicity data is not available.

Water solubility

(Sodium tetrahydroborate)
55 g/100 ml (25℃) (ICSC, 2006)

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

Bioaccumulative potential data is not available.

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No. or ID No.: 1426
UN Proper Shipping Name :
SODIUM BOROHYDRIDE
Class or division (Transport hazard class) : 4.3
Packing group : I
ERG GUIDE No.: 138

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1426
Proper Shipping Name :
SODIUM BOROHYDRIDE
Class or division : 4.3
Packing group : I

IATA Dangerous Goods Regulations

UN No.: 1426
Proper Shipping Name :
SODIUM BOROHYDRIDE
Class or division : 4.3
Hazard labels : Dang. when wet
Packing group : I

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

15. Regulatory Information

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

Chemicals listed in TSCA Inventory

Sodium tetrahydroborate

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

GHS classification and labelling

Water-react. 1: H260 In contact with water releases flammable gases which may ignite spontaneously

Acute Tox. 3: H301 Toxic if swallowed

Skin Corr. 1: H314 Causes severe skin burns and eye damage

STOT SE 3: H335 May cause respiratory irritation

Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN

IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (62nd Edition) 2021

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2021 TLVs and BEIs. (ACGIH)

Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2020).