

# Safety data sheet

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BASF Safety data sheet according to the United Nations' Globally Harmonized System (UN GHS)

Date / Revised: 25.03.2024

Version: 1.2

Product: **NAS battery**

(ID no. 30769402/SDS\_GEN\_00/EN)

Date of print 25.03.2024

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## 1. Identification

### Product identifier

## NAS battery

Recommended use: battery

### Details of the supplier of the safety data sheet

Company:

BASF Stationary Energy Storage GmbH

Benckiserplatz 1

Gebäude BE02

67059 Ludwigshafen

Telephone: +49 151 19671086

E-mail address: jochen.kind@basf.com

### Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

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## 2. Hazards Identification

### Classification of the substance or mixture

According to UN GHS criteria

Water-react. 1

Acute Tox. 3 (oral)

Skin Corr./Irrit. 1B

Eye Dam./Irrit. 1  
Carc. 1B

For the classifications not written out in full in this section the full text can be found in section 16.

## Label elements

### Globally Harmonized System (GHS)

Pictogram:



Signal Word:  
Danger

Hazard Statement:

H260	In contact with water releases flammable gases which may ignite spontaneously.
H301	Toxic if swallowed.
H350	May cause cancer.
H314	Causes severe skin burns and eye damage.

Precautionary Statements (Prevention):

P280	Wear protective gloves, protective clothing and eye protection or face protection.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust or mist.
P223	Do not allow contact with water.
P231 + P232	Handle and store contents under inert gas. Protect from moisture.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or physician.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302 + P335 + P334	IF ON SKIN: Brush off loose particles from skin. Immerse in cool water [or wrap in wet bandages].
P363	Wash contaminated clothing before reuse.
P370 + P378	In case of fire: Use ... to extinguish.

Precautionary Statements (Storage):

P402 + P404	Store in a dry place. Store in a closed container.
P405	Store locked up.

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Precautionary Statements (Disposal):

P501

Dispose of contents and container to hazardous or special waste collection point.

**Other hazards**According to UN GHS criteria

Note: This product does not require an SDS or label according to because it meets the definition of an article. Under normal conditions of use, this product will not present an exposure hazard. No specific dangers known, if the regulations/notes for storage and handling are considered. However, handling this product in a manner other than those of normal conditions of intended use can pose a health or environmental hazard.

**3. Composition/Information on Ingredients****Substances**Chemical natureSodium, Sodium sulfide (Na<sub>2</sub>(S<sub>x</sub>)), Sulfur

encapsulated in: metal

Hazardous ingredients (GHS)

According to UN GHS criteria

Sodium sulfide (Na<sub>2</sub>(S<sub>x</sub>))

Content (W/W): &gt; 0 % - &lt; 50 %

CAS Number: 1344-08-7

EC-Number: 215-686-9

INDEX-Number: 016-010-00-3

Acute Tox. 3 (oral)

Acute Tox. 3 (dermal)

Skin Corr./Irrit. 1B

Eye Dam./Irrit. 1

H314, H301 + H311

EUH031

Sulfur

Content (W/W): &gt; 0 % - &lt; 20 %

CAS Number: 7704-34-9

EC-Number: 231-722-6

INDEX-Number: 016-094-00-1

Skin Corr./Irrit. 2

H315

Sodium

Content (W/W): &gt;= 1 % - &lt; 10 %

CAS Number: 7440-23-5

EC-Number: 231-132-9

INDEX-Number: 011-001-00-0

Water-react. 1

Skin Corr. 1B

Eye Dam. 1

H260, H314

EUH014

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Refractories, fibers, aluminosilicate

Content (W/W):  $\geq 3\%$  -  $< 7\%$

CAS Number: 142844-00-6

Carc. 1B (by inhalation)

H350

For the classifications not written out in full in this section the full text can be found in section 16.

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## 4. First-Aid Measures

### Description of first aid measures

Remove contaminated clothing.

If inhaled:

Remove the affected individual into fresh air and keep the person calm. Seek medical attention.

On skin contact:

Wash thoroughly with soap and water. If irritation develops, seek medical attention.

On contact with eyes:

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. If irritation develops, seek medical attention.

On ingestion:

Immediately rinse mouth and then drink 200 - 300 ml water, do not induce vomiting, seek medical attention.

### Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

### Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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## 5. Fire-Fighting Measures

### Extinguishing media

Suitable extinguishing media:

Dry sand, Vermiculite

Unsuitable extinguishing media for safety reasons:

water, carbon dioxide, foam

### Special hazards arising from the substance or mixture

sodium oxides, sulfur oxides, metal oxides

The substances/groups of substances mentioned can be released in case of fire.

### **Advice for fire-fighters**

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered. Keep people away and stay on the upwind side.

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## **6. Accidental Release Measures**

Contact with water liberates extremely flammable gases.

### **Personal precautions, protective equipment and emergency procedures**

Use personal protective clothing.

### **Environmental precautions**

Discharge into the environment must be avoided.

### **Methods and material for containment and cleaning up**

For small amounts: Contain with dust binding material and dispose of.

Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Wear suitable protective equipment.

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## **7. Handling and Storage**

### **Precautions for safe handling**

No special measures necessary if stored and handled correctly. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:

No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

### **Conditions for safe storage, including any incompatibilities**

Suitable materials for containers: phosphated carbon steel

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

### **Specific end use(s)**

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

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## 8. Exposure Controls/Personal Protection

### Control parameters

#### Components with occupational exposure limits

7704-34-9: Sulfur

142844-00-6: Refractories, fibers, aluminosilicate

### Exposure controls

#### Personal protective equipment

Respiratory protection:

Respiratory protection in case of vapour/aerosol release. Suitable respiratory protection for higher concentrations or long-term effect: Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection:

Suitable chemical resistant safety gloves (EN ISO 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc.

Eye protection:

Required when there is a risk of eye contact., Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

#### General safety and hygiene measures

Wearing of closed work clothing is recommended. Handle in accordance with good industrial hygiene and safety practice.

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## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

State of matter:	solid
Form:	solid
Colour:	No applicable information available.
Odour:	not available
Odour threshold:	not determined
Melting point:	98 °C
Boiling point:	445 °C
Flammability:	not flammable

Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Flash point:	not applicable, the product is a solid
Auto-ignition temperature:	No data available.
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
SADT:	Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.
pH value:	No data available.
Viscosity, dynamic:	not applicable, the product is a solid
Solubility in water:	not soluble
Partitioning coefficient n-octanol/water (log Kow):	not applicable
Vapour pressure:	not applicable
Relative density:	No data available.
Relative vapour density (air):	No data available.

## 9.2. Other information

### Information with regard to physical hazard classes

#### Explosives

Explosion hazard: Based on the chemical structure there is no indication of explosive properties.

#### Oxidizing properties

Fire promoting properties: Based on its structural properties the product is not classified as oxidizing.

#### Self-heating substances and mixtures

Self heating ability: It is not a substance capable of spontaneous heating.

#### Corrosion to metals

not applicable

### Other safety characteristics

Evaporation rate: not applicable

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## 10. Stability and Reactivity

### Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: not applicable

### Chemical stability

The product is stable if stored and handled as prescribed/indicated.

### Possibility of hazardous reactions

No hazardous reactions when stored and handled according to instructions.  
The product is chemically stable.

### Conditions to avoid

Avoid direct contact with water. Avoid extreme heat.

### Incompatible materials

Substances to avoid:  
water, strong acids

### Hazardous decomposition products

Hazardous decomposition products:  
sulfur oxides, sodium oxides, metallic oxides

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## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

Assessment of acute toxicity:  
Of pronounced toxicity after single ingestion.

#### Irritation

Assessment of irritating effects:  
Corrosive! Damages skin and eyes. May cause severe damage to the eyes. The product has not been tested. The statement has been derived from the properties of the individual components.

#### Respiratory/Skin sensitization

Assessment of sensitization:



No applicable information available.

#### Germ cell mutagenicity

Assessment of mutagenicity:

Based on available data, the classification criteria are not met.

#### Carcinogenicity

Assessment of carcinogenicity:

The substance caused cancer in animal studies.

#### Reproductive toxicity

Assessment of reproduction toxicity:

Based on available data, the classification criteria are not met.

Experimental/calculated data:

No data available.

#### Developmental toxicity

Assessment of teratogenicity:

Based on available data, the classification criteria are not met.

#### Specific target organ toxicity (single exposure)

Remarks: Based on available data, the classification criteria are not met.

#### Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

Based on available data, the classification criteria are not met.

#### Aspiration hazard

Toxic if swallowed.

#### Other relevant toxicity information

The product has not been tested. The statement has been derived from the properties of the individual components.

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## 12. Ecological Information

### Toxicity

Assessment of aquatic toxicity:

No data available.

### Persistence and degradability

Assessment biodegradation and elimination (H<sub>2</sub>O):  
Not applicable for inorganic substances.

### **Bioaccumulative potential**

Assessment bioaccumulation potential:  
No data available.

### **Mobility in soil**

Assessment transport between environmental compartments:  
Adsorption in soil: No data available.

### **Results of PBT and vPvB assessment**

Not applicable for inorganic substances.

### **Other adverse effects**

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

### **Additional information**

Other ecotoxicological advice:  
Do not discharge product into the environment without control.

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## **13. Disposal Considerations**

### **Waste treatment methods**

Must be disposed of or incinerated in accordance with local regulations.

Contaminated packaging:  
Packs that cannot be cleaned should be disposed of in the same manner as the contents.

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## **14. Transport Information**

### **Land transport**

ADR

UN number or ID number: UN3292

UN proper shipping name: BATTERIES, CONTAINING SODIUM

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Transport hazard class(es): 4.3  
Packing group: Not applicable  
Environmental hazards: no  
Special precautions for user: Tunnel code: E  
Protect from wetness

#### RID

UN number or ID number: UN3292  
UN proper shipping name: BATTERIES, CONTAINING SODIUM  
Transport hazard class(es): 4.3  
Packing group: Not applicable  
Environmental hazards: no  
Special precautions for user: Protect from wetness

#### Inland waterway transport

##### ADN

UN number or ID number: UN3292  
UN proper shipping name: BATTERIES, CONTAINING SODIUM  
Transport hazard class(es): 4.3  
Packing group: Not applicable  
Environmental hazards: no  
Special precautions for user: Protect from wetness

#### Transport in inland waterway vessel

Not evaluated

#### Sea transport

##### IMDG

UN number or ID number: UN 3292  
UN proper shipping name: BATTERIES, CONTAINING SODIUM  
Transport hazard class(es): 4.3  
Packing group: Not applicable  
Environmental hazards: no  
Marine pollutant: NO  
Special precautions for user: EmS: F-G; S-P  
Protect from wetness

#### Air transport

##### IATA/ICAO

UN number or ID number: UN 3292  
UN proper shipping name: BATTERIES, CONTAINING SODIUM

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Transport hazard class(es): 4.3  
 Packing group: Not applicable  
 Environmental hazards: No Mark as dangerous for the environment is needed  
 Special precautions for user: Protect from wetness

### Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

## 15. Regulatory Information

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

## 16. Other Information

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Water-react.	Substances and mixtures which in contact with water emit flammable gases
Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
Carc.	Carcinogenicity
Skin Corr.	Skin corrosion
Eye Dam.	Serious eye damage
H314	Causes severe skin burns and eye damage.
H301 + H311	Toxic if swallowed or in contact with skin.
H315	Causes skin irritation.
H260	In contact with water releases flammable gases which may ignite spontaneously.
H350	May cause cancer by inhalation.
EUH031	Contact with acids liberates toxic gas.
EUH014	Reacts violently with water.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.