

# Safety data sheet

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006

Date / Revised: 13.06.2013

Version: 10.0

Product: **Sodium Nitrate HQ free flowing (non-food grade)**

(ID no. 30046439/SDS\_GEN\_EU/EN)

Date of print 15.06.2013

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

### 1.1. Product identifier

## **Sodium Nitrate HQ free flowing (non-food grade)**

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

Relevant identified uses: Chemical

Recommended use: Raw material, process chemical, inorganic salts, Heat transfer agents, Agricultural industry, formulation agent

For the detailed identified uses of the product see appendix of the safety data sheet.

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

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Telephone: +49 621 60-0

E-mail address: global.info@basf.com

### 1.4. Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

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## SECTION 2: Hazards Identification

### 2.1. Classification of the substance or mixture

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

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Ox. Sol. 2  
Eye Dam./Irrit. 2

According to BASF current knowledge and application of the criteria given in Annex I of Regulation (EC) No. 1272/2008, the following classification exceeding the classification given in Regulation (EC) No 1272/2008, Annex VI, Table 3.1 is required.

Ox. Sol. 2

According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards:

Oxidizing.

Contact with combustible material may cause fire.

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

## 2.2. Label elements

Globally Harmonized System, EU (GHS)

Pictogram:



Signal Word:

Danger

Hazard Statement:

H319 Causes serious eye irritation.

H272 May intensify fire; oxidizer.

Precautionary Statements (Prevention):

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P280d Wear eye/face protection.

P280f + P283 Wear protective gloves and eye/face protection and fire/flame resistant/retardant clothing.

P221 Take any precaution to avoid mixing with combustibles ...

P220 Keep/Store away from clothing/combustible materials.

P264 Wash with plenty of water and soap 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.

P337 + P311 If eye irritation persists: Call a POISON CENTER or doctor/physician.

P370 + P378.4 In case of fire: Use water spray for extinction.

Precautionary Statements (Storage):

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P420 Store away from other materials.

Precautionary Statements (Disposal):

P501 Dispose of contents/container to hazardous or special waste collection point.

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

Hazard determining component(s) for labelling: SODIUM NITRATE

According to Directive 67/548/EEC or 1999/45/EC

Self classification

Hazard symbol(s)

O Oxidizing.



R-phrase(s)

R8 Contact with combustible material may cause fire.

S-phrase(s)

S41 In case of fire and/or explosion do not breathe fumes.

S17 Keep away from combustible material.

Hazard determining component(s) for labelling: SODIUM NITRATE

### 2.3. Other hazards

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

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

No specific dangers known, if the regulations/notes for storage and handling are considered.

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## SECTION 3: Composition/Information on Ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Chemical natureSodium nitrate  
NaNO<sub>3</sub>

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Contains: anticaking agent

Hazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

Sodium nitrate

Content (W/W):  $\geq 99\%$ 

CAS Number: 7631-99-4

EC-Number: 231-554-3

REACH registration number: 01-2119488221-41

Ox. Sol. 2

Eye Dam./Irrit. 2

H272, H319

Hazardous ingredients

according to Directive 1999/45/EC

Sodium nitrate

Content (W/W):  $\geq 99\%$ 

CAS Number: 7631-99-4

EC-Number: 231-554-3

REACH registration number: 01-2119488221-41

Hazard symbol(s): O

R-phrases: 8

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

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**SECTION 4: First-Aid Measures****4.1. Description of first aid measures**

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. After inhalation of decomposition products: Immediately inhale corticosteroid dose aerosol.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Rinse mouth immediately and then drink plenty of water, seek medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**

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Symptoms: Overexposure may cause: vomiting, methaemoglobinaemia, weakness, abdominal cramps, diarrhea, headache

Hazards: Danger of methaemoglobin formation after ingestion.

#### **4.3. Indication of any immediate medical attention and special treatment needed**

Treatment: Treat according to symptoms (decontamination, vital functions), treat with toluonium chloride to reverse methaemoglobinanaemia. After inhalation of decomposition products: Pulmonary odema prophylaxis.

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### **SECTION 5: Fire-Fighting Measures**

#### **5.1. Extinguishing media**

Suitable extinguishing media:  
water spray

Unsuitable extinguishing media for safety reasons:  
ABC powder, carbon dioxide

#### **5.2. Special hazards arising from the substance or mixture**

nitrogen oxides

The substances/groups of substances mentioned can be released if the product is involved in a fire.

#### **5.3. Advice for fire-fighters**

Special protective equipment:

Wear a self-contained breathing apparatus.

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### **SECTION 6: Accidental Release Measures**

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

Use breathing apparatus if exposed to vapours/dust/aerosol.

#### **6.2. Environmental precautions**

Do not release untreated into natural waters.

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

For large amounts: Sweep/shovel up. Dispose of absorbed material in accordance with regulations.

#### **6.4. Reference to other sections**

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

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### **SECTION 7: Handling and Storage**

#### **7.1. Precautions for safe handling**

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Keep container tightly sealed. Ensure suitable air extract/ventilation on process machinery and transportation equipment. Protect against moisture. Protect against heat. Keep away from sources of ignition - No smoking.

Protection against fire and explosion:  
The substance/product is non-combustible.

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

Segregate from oxidizable substances. Segregate from reducing agents. Segregate from ammonium salts.

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

See exposure scenario(s) in the attachment to this safety data sheet.

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## **SECTION 8: Exposure Controls/Personal Protection**

### **8.1. Control parameters**

#### Components with occupational exposure limits

7631-99-4: Sodium nitrate

#### PNEC

freshwater: 0.45 mg/l

marine water: 0.045 mg/l

intermittent release: 4.5 mg/l

STP: 18 mg/l

#### DNEL

worker:

Long-term exposure- systemic effects, Inhalation: 36.7 mg/m<sup>3</sup>

worker:

Long-term exposure- systemic effects, dermal: 20.8 mg/kg

consumer:

Long-term exposure- systemic effects, dermal: 12.5 mg/kg

consumer:

Long-term exposure- systemic effects, Inhalation: 10.9 mg/m<sup>3</sup>

consumer:

Long-term exposure- systemic effects, oral: 12.5 mg/kg

## 8.2. Exposure controls

### Personal protective equipment

Respiratory protection:

Breathing protection if dusts are formed. Particle filter with low efficiency for solid particles (e.g. EN 143 or 149, Type P1 or FFP1)

Hand protection:

Chemical resistant protective gloves (EN 374)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

polyvinylchloride (PVC) - 0.7 mm coating thickness

nitrile rubber (NBR) - 0.4 mm coating thickness

chloroprene rubber (CR) - 0.5 mm coating thickness

butyl rubber (butyl) - 0.7 mm coating thickness

fluoroelastomer (FKM) - 0.7 mm coating thickness

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

### General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Do not breathe dust. Keep away from food, drink and animal feeding stuffs. No eating, drinking, smoking or tobacco use at the place of work. Take off immediately all contaminated clothing. Hands and/or face should be washed before breaks and at the end of the shift. Employees should shower at the end of the shift.

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## SECTION 9: Physical and Chemical Properties

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

Form:	crystalline, powder
Colour:	white
Odour:	faint odour
pH value:	8 - 9 (100 g/l, 20 °C)
Melting point:	306 °C
Boiling point:	Study scientifically not justified.
Flash point:	Study scientifically not justified.
Flammability:	not highly flammable
Vapour pressure:	The value has not be determined because of the high melting point.

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Density:	2.26 g/cm <sup>3</sup> (20 °C) Literature data.
Relative density:	2.26 Literature data.
Solubility in water:	874 g/l (20 °C)
Partitioning coefficient n-octanol/water (log K <sub>ow</sub> ):	Study scientifically not justified.
Thermal decomposition:	> 600 °C oxygen, Nitrogen, Disodium oxide
Viscosity, dynamic:	Study scientifically not justified.
Explosion hazard:	not explosive
Fire promoting properties:	Oxidizing. (Directive 92/69/EEC, A.17)

## 9.2. Other information

Self heating ability:	It is not a substance capable of spontaneous heating.
Bulk density:	approx. 1,300 kg/m <sup>3</sup>
pK <sub>A</sub> :	14.8 (25 °C)
Hygroscopy:	hygroscopic
Adsorption/water - soil:	Study technically not feasible.
Surface tension:	Based on chemical structure, surface activity is not to be expected.
Molar mass:	84.99 g/mol

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## SECTION 10: Stability and Reactivity

### 10.1. Reactivity

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

### 10.2. Chemical stability

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

Peroxides: The product does not contain peroxides. The product/the substance does not incline for the formation of peroxide.

### 10.3. Possibility of hazardous reactions

Reacts with reducing agents. Reacts with oxidizing agents.

### 10.4. Conditions to avoid



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See MSDS section 7 - Handling and storage. Avoid heating while in contact with easily oxidizable materials.

### 10.5. Incompatible materials

Substances to avoid:

reducing agents, oxidizable substances, ammonium compound

### 10.6. Hazardous decomposition products

Hazardous decomposition products:

Disodium oxide

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## SECTION 11: Toxicological Information

### 11.1. Information on toxicological effects

#### Acute toxicity

Assessment of acute toxicity:

There is a risk of damage to the blood (methemoglobinemia) after a single uptake of large quantities.

Experimental/calculated data:

LD50 rat (oral): 3,430 mg/kg (OECD Guideline 401)

(by inhalation): Study does not need to be conducted.

LD50 rat (dermal): > 5,000 mg/kg (OECD Guideline 402)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

#### Irritation

Assessment of irritating effects:

Not irritating to the skin. May cause slight irritation to the eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Serious eye damage/irritation rabbit: no irreversible damage (OECD Guideline 405)

#### Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:

Mouse Local Lymph Node Assay (LLNA) mouse: Non-sensitizing. (OECD Guideline 429)

#### Germ cell mutagenicity

##### Assessment of mutagenicity:

The data available on mutagenic action are not consistent.

#### Carcinogenicity

##### Assessment of carcinogenicity:

In long-term studies in rats in which the substance was given by feed, a carcinogenic effect was not observed. Under certain conditions the substance can form nitrosamines. Nitrosamines are carcinogenic in animal studies.

#### Reproductive toxicity

##### Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect.

#### Developmental toxicity

##### Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies.

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

##### Assessment of repeated dose toxicity:

The substance may cause damage to the hematological system after repeated ingestion.

#### Aspiration hazard

Study does not need to be conducted.

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## **SECTION 12: Ecological Information**

### **12.1. Toxicity**

##### Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

##### Toxicity to fish:

LC50 (96 h) 7,950 mg/l, *Oncorhynchus tshawytscha* (static)

Literature data. Nominal concentration.

##### Aquatic invertebrates:

EC50 (24 h) 8,609 mg/l, *Daphnia magna* (*Daphnia* test acute, static)

##### Aquatic plants:

EC50 (10 d) > 1,700 mg/l (chlorophyll content), algae (static)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Microorganisms/Effect on activated sludge:

EC10 (3 h) 180 mg/l, activated sludge, domestic (OECD Guideline 209, aquatic)

Chronic toxicity to fish:

Study scientifically not justified.

Chronic toxicity to aquatic invertebrates:

Study scientifically not justified.

Assessment of terrestrial toxicity:

Study scientifically not justified.

## **12.2. Persistence and degradability**

Assessment biodegradation and elimination (H<sub>2</sub>O):

Not applicable for inorganic substances. Can be oxidized to nitrate, or be reduced to nitrogen, by microorganisms.

Assessment of stability in water:

According to structural properties, hydrolysis is not expected/probable.

Study scientifically not justified.

## **12.3. Bioaccumulative potential**

Assessment bioaccumulation potential:

Accumulation in organisms is not to be expected.

## **12.4. Mobility in soil**

Assessment transport between environmental compartments:

Adsorption to solid soil phase is not expected.

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

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Not applicable for inorganic substances.

## **12.6. Other adverse effects**

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

## **12.7. Additional information**

Other ecotoxicological advice:

Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

## SECTION 13: Disposal Considerations

### 13.1. Waste treatment methods

Contact manufacturer regarding recycling.

Check for possible recycling.

Contact waste centre regarding recycling.

Test for use in agriculture.

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## SECTION 14: Transport Information

### Land transport

#### ADR

UN number	UN1498
UN proper shipping name:	SODIUM NITRATE
Transport hazard class(es):	5.1
Packing group:	III
Environmental hazards:	no
Special precautions for user:	Tunnel code: E

#### RID

UN number	UN1498
UN proper shipping name:	SODIUM NITRATE
Transport hazard class(es):	5.1
Packing group:	III
Environmental hazards:	no
Special precautions for user:	None known

### Inland waterway transport

#### ADN

UN number	UN1498
UN proper shipping name:	SODIUM NITRATE
Transport hazard class(es):	5.1
Packing group:	III
Environmental hazards:	no
Special precautions for user:	None known
Transport in inland waterway vessel:	Not evaluated

### Sea transport

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**IMDG**

UN number:	UN 1498
UN proper shipping name:	SODIUM NITRATE
Transport hazard class(es):	5.1
Packing group:	III
Environmental hazards:	no
	Marine pollutant: NO
Special precautions for user:	None known

**Air transport****IATA/ICAO**

UN number:	UN 1498
UN proper shipping name:	SODIUM NITRATE
Transport hazard class(es):	5.1
Packing group:	III
Environmental hazards:	No Mark as dangerous for the environment is needed
Special precautions for user:	None known

**14.1. UN number**

See corresponding entries for "UN number" for the respective regulations in the tables above.

**14.2. UN proper shipping name**

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

**14.3. Transport hazard class(es)**

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

**14.4. Packing group**

See corresponding entries for "Packing group" for the respective regulations in the tables above.

**14.5. Environmental hazards**

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

**14.6. Special precautions for user**

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Regulation: Not evaluated

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Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

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## SECTION 15: Regulatory Information

### 15.1. 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.

### 15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

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## SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Acute Tox. 5 (oral)
Ox. Sol. 2
Eye Dam./Irrit. 2A

This product is of industrial quality and unless otherwise specified or agreed intended exclusively for industrial use. Any other intended applications should be discussed with the manufacturer.

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

O	Oxidizing.
8	Contact with combustible material may cause fire.
Ox. Sol.	Oxidising solid
Eye Dam./Irrit.	Serious eye damage/eye irritation
H272	May intensify fire; oxidizer.
H319	Causes serious eye irritation.

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. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

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