HALBLEITER MATERIAL

Material Safety Data Sheet

Sodium Fluoride Granules

Report No.: VIH240927007-1
Version: 2.1
Preparation Date: 09/27/2024
Revision Date: 09/27/2024

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

1.1 Product identifier

Product Name	Sodium Fluoride
Product No.	110900GN
Formula	NaF
CAS No.	7681-49-4
Synonyms	None

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

Identified uses	Laboratory chemicals, Scientific research
Uses advised against	Consulting manufacturers

1.3 Details of the supplier of the safety data sheet

Company Name	VI HALBLEITERMATERIAL GmbH
Street	Bergener Straße 14.,
City	Hannover
State	Niedersachsen
Zip Code	30625
Country	Germany
Tel	0049 1626484175
Email	info@vimaterial.de
Website	https://vimaterial.de/

1.4 Emergency telephone number

Emergency Phone #	0049 1626484175

2. Hazards Identification

2.1 Classification of the substance or mixture

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

Physical hazards

Not Classified

Health hazards

Acute toxicity, Oral	Category 3 (H301)
Skin irritation	Category 2 (H315)
Eye irritation	Category 2 (H319)

Environmental hazards

Not Classified

Full text of Hazard Statements: see section 16

2.2 Label elements

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

Signal Word	Danger
Pictograms	

Hazard Statements

H301	Toxic if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

Precautionary Statements

Prevention	
P260	Do not breathe dust.
P280	Wear protective gloves/protective clothing/eye protection/face protection
Response	
P301 + P330 + P331 + P310	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/ physician.
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)	
EUH032	Contact with acids liberates very toxic gas.

2.3 Other hazards

According to the results of its assessment, this substance is not a PBT or a vPvB.
This product does not contain any known or suspected endocrine disruptors.

3. Composition/information on ingredients

3.1 Substances

Chemical Family	Ceramic

Component	CAS No.	EC No.	Concentration
Sodium fluoride (NaF)	7681-49-4	231-667-8	<=100%

4. First aid measures

4.1 Description of first aid measures

General Treatment	If symptoms persist, call a physician.
Inhalation	Remove victim to fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.
Skin	Take off immediately all contaminated clothing. Rinse skin with water/ shower. Seek medical attention.
Eyes	Rinse with pure water for at least 15 minutes. Remove contact lenses, if present and easy to do. Seek medical attention.
Ingestion	Do NOT induce vomiting. Rinse mouth with water. Seek medical attention if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Most important symptoms and effects, both acute and delayed, are included on labelling (Section 2.2) and in Section 11.

4.3 Indication of any immediate medical attention and special treatment needed

1	Based on the symptoms that appear, provide targeted treatment.
2	Be aware that symptoms may be delayed.

5. Firefighting Measures

5.1 Extinguishing Media

Suitable extinguishing media	Water spray, carbon dioxide (CO_2), dry chemical, alcohol-resistant foam

Unsuitable extinguishing media	N/A

5.2 Special hazards arising from the substance or mixture

1	Hydrogen fluoride
2	Sodium oxides
3	Non-flammable
4	Thermal decomposition can lead to release of irritating gases and vapors.

5.3 Advice for firefighters

1	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
2	Fight fire from a safe distance and with adequate protection.
3	Do not allow firefighting water to enter drains or water courses.
4	Collect contaminated firefighting water separately.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Remove persons to safety. Use personal protective equipment as required. Ensure adequate ventilation.
For emergency responders	Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental Precautions

1	Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill	Covering of drains, Take up mechanically.
Advice on how to clean up a spill	Take up mechanically. Take care not to raise dust.
Other information relating to spills and releases	Place in appropriate containers for disposal. Ventilate affected area. Avoid dust formation. Avoid sparks, flames, heat and smoking.

6.4 Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

7. Handling and Storage

7.1 Precautions for safe handling

Recommendations	Wear personal protective equipment/face protection. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

7.2 Conditions for safe storage, including any incompatibilities

Ventilation requirements	Keep containers tightly closed in a dry, cool and well-ventilated place.
Storage Class (TRGS 510)	Class 6.1D.
Incompatible materials	Keep away from acids.

7.3 Specific end use(s)

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

8. Exposure Controls/Personal Protection

8.1 Control parameters

Substance	CAS No.	Source	OELs	Remarks
Sodium fluoride	7681-49-4	TRGS 900 (DE)	TWA: 1.25 mg/m³ (respirable) / 2.5 mg/m³ (inhalable)	AGW TWA values for dust; 10/20 mg/m³ ceiling also listed
Sodium fluoride (as F)	7681-49-4	EU IOELV (2000/39/EC)	TWA: 2.5 mg/m³	Indicative EU limit
Sodium fluoride (as F)	7681-49-4	OSHA PEL / NIOSH REL / ACGIH TLV (USA)	TWA: 2.5 mg/m³	Based on fluoride ion; TWA only; BEI exists; TLV-A4 (not classifiable as human carcinogen)

Biological Limit Values (BEI / BGV)

Country	Parameter	Sampling Time	Value	Source
Germany (TRGS 903)	Fluoride (urine)	-	4 mg/L	TRGS 903 biological limit value
ACGIH (USA)	Fluorides in urine	Pre-shift / End-of-shift	2 mg/L / 3 mg/L	ACGIH BEI values

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

Inhalation (short-term, systemic effects)	Dermal (long-term, systemic effects)	Dermal (short-term, systemic effects)
DNEL = 2.5 mg/m³	DNEL = 0.36 mg/kg body weight/day	DNEL = 0.36 mg/kg body weight/day

Predicted No Effect Concentration (PNEC)

freshwater, aquatic organisms	marine water	intermittent release	sediment, freshwater	soil	STP – sewage treatment plant
0.022 mg/L (based on chronic toxicity data)	0.0022 mg/L	0.22 mg/L	0.35 mg/kg sediment dw	0.027 mg/kg soil dw	1.0 mg/L

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the work station location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles) (European standard - EN166) and face protection.

Skin protection

-Hand Protection

Protective gloves (The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.)

-Other protection measures

Wear appropriate protective gloves and clothing to prevent skin exposure. Wash hands thoroughly after handling.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.

Large scale/emergency use	Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced Recommended Filter type: Particulates filter conforming to EN 143
Small scale/Laboratory use	Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. Recommended half mask:- Particle filtering: EN149:2001 When RPE is used a face piece Fit Test should be conducted

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls
Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

9. Physical and Chemical Characteristics

9.1 Information on basic physical and chemical properties

Physical State	Solid.
Colour	White
Odor	Odorless
Melting Point/Range	993 °C
Boiling Point/Range	1700 °C
Flammability (liquid)	Not applicable
Flammability (solid, gas)	No data available
Explosion limits	No data available
Flash Point	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
pH	No data available
Viscosity	Not applicable
Water Solubility	40g/L (25°C)
Solubility in other solvents	No data available
Partition Coefficient	No data available

(n-octanol/water)	
Vapor Pressure	No data available
Density / Specific Gravity	2.78 g/cm^3
Vapor Density	Not applicable
Particle characteristics	No data available

9.2 Other information

Molecular formula	NaF
Molecular weight	41.99 g/mol
Evaporation Rate	Not applicable - Solid

10. Stability and reactivity

10.1 Reactivity

None known, based on information available.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous Polymerization: No information available

Hazardous Reactions: Contact with acids liberates very toxic gas.

10.4 Conditions to avoid

Incompatible products. Exposure to moist air or water.

10.5 Incompatible materials

Acids.

10.6 Hazardous decomposition products

Gaseous hydrogen fluoride (HF).

In the event of fire: see section 5

11. Toxicological information

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

Acute toxicity	Oral:	LD50 - Rat = 52 mg/kg
	Dermal:	LD50 - Rat > 2000 mg/kg
	Inhalation:	No data available.
Skin corrosion/irritation	Cause skin irritation.	
Serious eye	Cause serious eye irritation.	

damage/irritation		
Respiratory or skin sensitization	Respiratory	No data available.
	Skin	No data available.
Germ cell mutagenicity	No data available.	
Carcinogenicity	No data available. There are no known carcinogenic chemicals in this product	
Reproductive toxicity	No data available.	
STOT - single exposure	No data available.	
STOT - repeated exposure	No data available.	
Aspiration hazard	Not applicable. Solid	

11.2 Information on other hazards

Endocrine Disrupting Properties: Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

12. Ecological Information

12.1 Toxicity

Toxicity to fish	mortality NOEC - Cyprinodon variegatus (sheepshead minnow) - 500 mg/l - 96 h LC50 - Oncorhynchus mykiss (rainbow trout) - 200 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 98 mg/l - 48 h

12.2 Persistence and degradability

Persistence	Soluble in water, Persistence is unlikely, based on information available.
Degradability	Not relevant for inorganic substances.

12.3 Bioaccumulative potential

Bioaccumulative potential	Bioaccumulation is unlikely

12.4 Mobility in soil

Mobility in soil	The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB	In accordance with Annex XIII of the REACH Regulation, inorganic

assessment	substances do not require assessment.

12.6 Endocrine disrupting properties

Endocrine Disruptor Information	This product does not contain any known or suspected endocrine disruptors.

12.7 Other adverse effects

Persistent Organic Pollutant	This product does not contain any known or suspected substance
Ozone Depletion Potential	This product does not contain any known or suspected substance

13. Disposal Considerations

13.1 Waste treatment methods

Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible, otherwise incineration is the recommended method of disposal. Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers.

14. Transport information

IMDG

14.1. UN number	UN 1690
14.2. UN Proper shipping name	SODIUM FLUORIDE, SOLID
14.3. Transport hazard class(es)	6.1
14.4. Packaging group	III

ADR/RID/ADN

14.1. UN number	UN 1690
14.2. UN Proper shipping name	SODIUM FLUORIDE, SOLID
14.3. Transport hazard class(es)	6.1
14.4. Packaging group	III

ICAO-IATA/DGR

14.1. UN number	UN 1690

14.2. UN Proper shipping name	SODIUM FLUORIDE, SOLID
14.3. Transport hazard class(es)	6.1
14.4. Packaging group	III

14.5. Environmental hazards	No hazards identified
14.6. Special precautions for user	No special precautions required
14.7. Maritime transport in bulk according to IMO instruments	Not applicable, packaged goods

15. Regulatory information

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

This Safety Data Sheet is prepared in accordance with Commission Regulation (EC) 1907/2006, amended by Commission Regulation (EU) 2020/878.

Authorisations/Restrictions

Regulation (EC) 1907/2006, REACH, Annex XIV list of substances subject to authorisation:	Not applicable
Regulation (EC) 1907/2006, REACH, Annex XVII restrictions on the manufacture, placing on the market and use of certain dangerous substances:	Use restricted. See item 75. (see link for restriction details)
Regulation (EC) 1005/2009 on substances that deplete the ozone layer:	Not applicable
Regulation (EC) 850/2004 on persistent organic pollutants, amended by (EU) No 2019/1021:	Not applicable

REACH links
https://echa.europa.eu/substances-restricted-under-reach

15.2 Chemical Safety Assessment
No Chemical Safety Assessment has been carried out for this substance.

16. Other information

Revision information

Preparation date	09/27/2024

Revision date	09/27/2024
Revision reason	Creation.

Abbreviations and acronyms

CAS	Chemical Abstracts Service
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
RID	Regulation concerning the International Carriage of Dangerous Goods by Rail
IATA	International Air Transportation Association
IMDG	International Maritime Dangerous Goods
LC50	Lethal Concentration 50%
LD50	Lethal Dose 50%
TWA	Time Weighted Average
STOT	Specific target organ toxicity
PBT	Persistent, Bioaccumulative, Toxic
vPvB	Very Persistent, very Bioaccumulative
WEL	Workplace exposure limit

References

[1] CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

[2] ECHA - European Chemicals Agency, website: https://echa.europa.eu/

[3] eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

[4] Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

[5] HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

[6] IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

[7] IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

[8] ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

List of relevant phrases (code and full text as stated in chapter 2 and 3)

H301	Toxic if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

Disclaimer

The information of this safety data sheet 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. For further information please contact info@vimaterial.de.