

Sodium Metasilicate Anhydrous

Version number: 1.0

SECTION 1: Identification

1.1 Product identifier

Identification of the substance	Silicic acid (H ₂ SiO ₃), sodium salt (1:2)
Trade name	Sodium Metasilicate Anhydrous
CAS number	6834-92-0

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

Relevant identified uses	Chemicals for various applications
Uses advised against	Do not use for squirting or spraying Do not use for products which come into direct contact with the skin

1.3 Details of the supplier of the safety data sheet

Valudor Products, LLC	Telephone: +1 (760) 635 8500
179 Calle Magdalena Suite 100	e-mail: info@valudor.com
Encinitas, California CA 92024	Website: www.valudor.com
United States	

1.4 Emergency telephone number

Emergency information service	800-535-5053 (Infotrac)
As above or next toxicological information centre.	

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
A.2	skin corrosion/irritation	1B	Skin Corr. 1B	H314
A.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335
B.16	substance or mixture corrosive to metals	1	Met. Corr. 1	H290

For full text of abbreviations: see SECTION 16

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The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Signal word danger

Pictograms

GHS05, GHS07



Hazard statements

- H290** May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary statements

- P234** Keep only in original container.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
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.
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/doctor.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

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SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	Silicic acid (H ₂ SiO ₃), disodium salt
Identifiers	
CAS No	6834-92-0
Molecular formula	H ₂ O ₃ Si•2Na
Purity	> 95 %

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Remove affected person from the danger area and lay down.
Do not leave affected person unattended.
Self-protection of the first aider.

Following inhalation

Provide fresh air.
Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus.
Call a physician.
In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following skin contact

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.
Call a physician immediately. Causes poorly healing wounds.
Wash contaminated clothing before reuse.

Following eye contact

Rinse immediately carefully and thoroughly with eye shower or water.
Remove contact lenses, if present and easy to do. Continue rinsing.
Get immediate medical advice/attention.

Following ingestion

Rinse mouth immediately and drink plenty of water.
Do NOT induce vomiting.
Get immediate medical advice/attention.

Notes for the doctor

None.

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4.2 Most important symptoms and effects, both acute and delayed

Cough, pain, choking, and breathing difficulties.
Causes poorly healing wounds.
Causes serious eye damage.

4.3 Indication of any immediate medical attention and special treatment needed

This information is not available.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

non-combustible, coordinate firefighting measures to the fire surroundings

Unsuitable extinguishing media

none

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.
Substance or mixture corrosive to metals.

Hazardous combustion products

metal oxide smoke, toxic, irritant vapors / gases

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.
Coordinate firefighting measures to the fire surroundings.
Do not allow firefighting water to enter drains or water courses.
Collect contaminated firefighting water separately.
Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

use suitable breathing apparatus, chemical protection suit

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.
Ventilate affected area.
Control of dust.
Do not breathe dust.
Do not get in eyes, on skin, or on clothing.
Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

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6.2 Environmental precautions

Knock down dust with water spray.
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

Take up mechanically.

Advice on how to clean up a spill

Take up mechanically.
Collect spillage.

Other information relating to spills and releases

Place in appropriate containers for disposal.
Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.
Personal protective equipment: see section 8.
Incompatible materials: see section 10.
Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Specific notes/details

None.

Handling of incompatible substances or mixtures

Do not mix with acids.

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.
Remove contaminated clothing and protective equipment before entering eating areas.
Do not breathe dust.
Do not get in eyes, on skin, or on clothing.
Wash thoroughly after handling.
Preventive skin protection (barrier creams/ointments) is recommended.

7.2 Conditions for safe storage, including any incompatibilities

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Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

Flammability hazards

None.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

heat, humidity

Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Keep away from acids.

Hygroscopic solid-Protect from moisture.

Packaging compatibilities

Only packagings which are approved (e.g. acc. to DOT) may be used.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Human health values

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	6.22 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	1.49 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Environment values

Relevant PNECs and other threshold levels		
Endpoint	Threshold level	Environmental compartment
PNEC	7.5 mg/l	freshwater
PNEC	1 mg/l	marine water

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Relevant PNECs and other threshold levels		
Endpoint	Threshold level	Environmental compartment
PNEC	1,000 mg/l	sewage treatment plant (STP)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Protective clothing against liquid chemicals.

Eye/face protection

Wear eye/face protection.

Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
IIR: isobutene-isoprene (butyl) rubber	≥ 0,65 mm	>480 minutes (permeation: level 6)
FKM: fluoro-elastomer	≥ 0,65 mm	>480 minutes (permeation: level 6)
CR: chloroprene (chlorobutadiene) rubber	≥ 0,65 mm	>480 minutes (permeation: level 6)

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

In the case of wanting to use the gloves again, clean them before taking off and air them well.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

P2 (filters at least 94 % of airborne particles, color code: White).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	solid
Color	white
Odor	odorless

Other safety parameters

pH (value)	12.4 (in aqueous solution: 1 wt%)
Melting point/freezing point	1,089 °C
Boiling point or initial boiling point and boiling range	not determined
Flash point	not applicable
Evaporation rate	not determined
Flammability (solid, gas)	non-combustible
Explosive limits	not determined

Explosion limits of dust clouds not determined

Vapor pressure not determined

Density 2.61 g/cm³ at 20 °C

Vapor density this information is not available

Relative density information on this property is not available

Solubility(ies)

Water solubility 210 g/l at 20 °C

Partition coefficient

n-octanol/water (log KOW) not relevant
(inorganic)

Auto-ignition temperature not determined

Decomposition temperature not relevant

Viscosity not relevant
(solid)

Explosive properties none

Oxidizing properties none

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Information for relevant hazard classes according to GHS

there is no additional information

9.2 Other information

there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

It's a reactive substance.
Substance or mixture corrosive to metals.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

Strong exothermic reaction with acids.
Light metals (due to the release of hydrogen in an acid/alkaline medium).

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

metal, acids

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

If not otherwise specified the classification is based on:

Animal studies; Evidence from any other toxicity tests; Expert judgment (weight of evidence determination).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Shall not be classified as acutely toxic (oral).
Shall not be classified as acutely toxic (dermal).
May be harmful if swallowed.

Exposure route	Endpoint	Value	Species
oral	LD50	1,153 – 1,349 mg/kg	rat
dermal	LD50	>5,000 mg/kg	rat

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Skin corrosion/irritation

Causes severe skin burns and eye damage.

Classification procedure

The classification is based on an extreme pH value.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Skin sensitization

Based on available data, the classification criteria are not met.
Shall not be classified as a skin sensitizer.

Respiratory sensitization

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

Germ cell mutagenicity

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

Carcinogenicity

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

IARC Monographs

not listed

National Toxicology Program (United States)

not listed

OSHA Carcinogens

Not listed.

Reproductive toxicity

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

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

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

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Other information

There is no additional information.

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SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

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

Endpoint	Exposure time	Value	Species	Method
LC50	96 h	210 mg/l	zebra fish (Danio rerio)	-
EC50	48 h	1,700 mg/l	water flea (Daphnia)	EU method C.2

Aquatic toxicity (chronic)

No data available.

12.2 Persistence and degradability

Biodegradation

The study does not need to be conducted because the substance is inorganic.

Persistence

The study does not need to be conducted because the substance is inorganic.

12.3 Bioaccumulative potential

The study does not need to be conducted because the substance is inorganic.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Other adverse effects

This information is not available.

Remarks

Wassergefährdungsklasse, WGK (water hazard class): 1

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packages

Completely emptied packages can be recycled.

Handle contaminated packages in the same way as the substance itself.

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Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number

DOT	UN3253
IMDG-Code	UN3253
ICAO-TI	UN3253

14.2 UN proper shipping name

DOT	Disodium trioxosilicate
IMDG-Code	DISODIUM TRIOXOSILICATE
ICAO-TI	Disodium trioxosilicate

14.3 Transport hazard class(es)

DOT	8
IMDG-Code	8
ICAO-TI	8

14.4 Packing group

DOT	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards

-

14.6 Special precautions for user

-

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

-

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information

Particulars in the shipper's declaration	UN3253, Disodium trioxosilicate, 8, III
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Danger label(s)	8
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Special provisions (SP)	IB8, IP3, T1, TP33
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ERG No	154
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International Maritime Dangerous Goods Code (IMDG) Additional information

Marine pollutant	-
Danger label(s)	8
	
Special provisions (SP)	-
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
EmS	F-A, S-B
Stowage category	A
Segregation group	18 - Alkalis.

International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

Danger label(s)	8
	
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA) substance is listed

Superfund Amendment and Reauthorization Act (SARA TITLE III)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

not listed

Specific Toxic Chemical Listings (EPCRA Section 313)

not listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

not listed

Clean Air Act

not listed

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Right to Know Hazardous Substance List

Hazardous Substance List (NJ-RTK)

not listed

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

not listed

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System.
American Coatings Association.

Category	Rating	Description
Chronic	/	none
Health	3	major injury likely unless prompt action is taken and medical treatment is given
Flammability	1	material that must be preheated before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	-

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	1	material that must be preheated before ignition can occur
Health	3	material that, under emergency conditions, can cause serious or permanent injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard	-	-

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance by the supplier.

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SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2021-07-20

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
49 CFR US DOT	49 CFR U.S. Department of Transportation
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EmS	Emergency Schedule
ERG No	Emergency Response Guidebook - Number
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC Mono-graphs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
vPvB	Very Persistent and very Bioaccumulative

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Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

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

Code	Text
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.

Responsible for the safety data sheet

Chemical Regulatory Compliance Company Telephone: +1 (630) 410-1660
Chicago, IL e-Mail: GHS@crc-us.com
USA Website: www.crc-us.com

Disclaimer

This information is based upon the present state of our knowledge.

This SDS has been compiled and is solely intended for this product.