SAFETY DATA SHEET according to the OSHA Hazard Communication Standard

Version 6.24
Revision Date 07/23/2026
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SECTION 1. IDENTIFICATION

1.1 Product identifiers

Product name : VOCs - Loamy Sand 4

Product Number : CRM633
Brand : Sigma-Aldrich

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

Identified uses : Laboratory chemicals, Synthesis of substances

Restrictions on use : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Not a hazardous substance or mixture.

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Other hazards

None known.

GHS label elements

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

CAS-No. : Not Assigned

Components

Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
Quartz (SiO2)	14808-60-7*	>= 80 - <= 100	TSC

* Indicates that the identifier is a CAS No.
TSC- the actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : After inhalation: fresh air.

In case of skin contact : In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact : After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed : After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Most important symptoms and effects, both acute and delayed : The most important known symptoms and effects are described in the labelling (see section 2 GHS label elements) and/or in section 11

Protection of first-aiders : For personal protection see section 8.

Notes to physician : No data available

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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Unsuitable extinguishing media	:	For this substance/mixture no limitations of extinguishing agents are given.
Specific hazards during fire fighting	:	Not combustible. Ambient fire may liberate hazardous vapours.
Hazardous combustion products	:	silicon oxides
Specific extinguishing methods	:	No data available
Further information	:	Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Advice for non-emergency personnel: Avoid inhalation of dusts. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Wear appropriate personal protective equipment, as indicated in Section 8.
Environmental precautions	:	Do not let product enter drains.
Methods and materials for containment and cleaning up	:	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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SECTION 7. HANDLING AND STORAGE

For precautions see section 2 GHS label elements

Further information on storage conditions	:	Tightly closed. Dry.
Storage class	:	13, Non Combustible Solids
Recommended storage temperature	:	Recommended storage temperature see product label.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Quartz (SiO2)	14808-60-7	TWA (Respirable dust)	0.05 mg/m3	OSHA Z-1
		TWA (respirable)	10 mg/m3 / %SiO2+2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO2+5	OSHA Z-3
		TWA (Respirable particulate matter)	0.025 mg/m3 (Silica)	ACGIH
		PEL (respirable)	0.05 mg/m3	OSHA CARC

Engineering measures : No data available

Personal protective equipment

Respiratory protection	:	required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
Recommended Filter type:	:	Filter type P2

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The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Hand protection

Material	:	Nitrile rubber
Break through time	:	480 min
Glove thickness	:	0.11 mm
Protective index	:	Full contact
Manufacturer	:	KCL 741 Dermatril® L

Material	:	Nitrile rubber
Break through time	:	480 min
Glove thickness	:	0.11 mm
Protective index	:	Splash contact
Manufacturer	:	KCL 741 Dermatril® L

Remarks	:	Handle with impervious gloves. This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Eye protection	:	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses
Hygiene measures	:	Change contaminated clothing. Wash hands after working with substance.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	solid
Colour	:	No data available
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available

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Melting point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	The product is not flammable.
Flammability (liquids)	:	No data available
Burning rate	:	No data available
Self-ignition	:	Not applicable
Upper explosion limit / Upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Flow time	:	No data available
Explosive properties	:	Not classified as explosive.
Oxidizing properties	:	none
Particle characteristics		
Particle size	:	No data available

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SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No data available
Chemical stability	:	The product is chemically stable under standard ambient conditions (room temperature) .
Possibility of hazardous reactions	:	No data available
Conditions to avoid	:	no information available
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	For Hazardous combustion products in the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Mixture

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: OSHA specifically regulated carcinogen (Quartz (SiO2))

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure

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No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Liver - Irregularities - Based on Human Evidence

Components

Quartz (SiO2)

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

Components:

Quartz (SiO2):

Biodegradability	:	Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

Components:

Quartz (SiO2):

Partition coefficient: n-octanol/water	:	Remarks: Not applicable for inorganic substances

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Endocrine disrupting properties

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14. TRANSPORT INFORMATION

International Regulations

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IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to IMO instruments
Not applicable for product as supplied.

National Regulations

49 CFR
Not regulated as a dangerous good
Poison Inhalation Hazard : No

Special precautions for user
Remarks : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
1,2-Dibromo-3-chloropropane	96-12-8	1	1001
1,2-dibromoethane	106-93-4	1	1001
benzene	71-43-2	10	10 (D018)
ethylbenzene	100-41-4	100	100 (F003)
Xylene	1330-20-7	100	100 (F003)
1,4-dichlorobenzene	106-46-7	100	100 (D027)
1,2-Dichlorobenzene	95-50-1	10	10 (F002)
1,1,1-Trichloroethane	71-55-6	10	10 (F002)
1,2-Dichloroethane	107-06-2	100	100 (D028)
chlorobenzene	108-90-7	100	100 (D021)
1,1,1-Trichloroethane	71-55-6	10	10 (F001)
Carbon tetrachloride	56-23-5	10	10 (F001)
Carbon tetrachloride	56-23-5	10	10 (D019)
Chloroform	67-66-3	10	10 (D022)
trichloroethylene	79-01-6	100	100 (D040)
Ethyl Methyl Ketone	78-93-3	5000	5000 (D035)
Ethyl Methyl Ketone	78-93-3	100	100 (F005)

SARA 304 Extremely Hazardous Substances Reportable Quantity
Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Chronic Health Hazard

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SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Toluene	108-88-3	>= 0 - < 0.1 %
benzene	71-43-2	>= 0 - < 0.1 %
o-xylene	95-47-6	>= 0 - < 0.1 %
ethylbenzene	100-41-4	>= 0 - < 0.1 %
1,4-dichlorobenzene	106-46-7	>= 0 - < 0.1 %
1,2-Dichlorobenzene	95-50-1	>= 0 - < 0.1 %
styrene	100-42-5	>= 0 - < 0.1 %
1,2-Dichloroethane	107-06-2	>= 0 - < 0.1 %
chlorobenzene	108-90-7	>= 0 - < 0.1 %
Carbon tetrachloride	56-23-5	>= 0 - < 0.1 %
Chloroform	67-66-3	>= 0 - < 0.1 %
1,2-dibromoethane	106-93-4	>= 0 - < 0.1 %
trichloroethylene	79-01-6	>= 0 - < 0.1 %
Xylene	1330-20-7	>= 0 - < 0.1 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Toluene	108-88-3	>= 0 - < 0.1 %
benzene	71-43-2	>= 0 - < 0.1 %
ethylbenzene	100-41-4	>= 0 - < 0.1 %
styrene	100-42-5	>= 0 - < 0.1 %
1,2-Dichloroethane	107-06-2	>= 0 - < 0.1 %
chlorobenzene	108-90-7	>= 0 - < 0.1 %
Carbon tetrachloride	56-23-5	>= 0 - < 0.1 %
Chloroform	67-66-3	>= 0 - < 0.1 %
1,2-dibromoethane	106-93-4	>= 0 - < 0.1 %
trichloroethylene	79-01-6	>= 0 - < 0.1 %
Xylene	1330-20-7	>= 0 - < 0.1 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

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US State Regulations

Massachusetts Right To Know

Quartz (SiO2)	14808-60-7
benzene	71-43-2
Bromomethane	74-83-9
1,4-dichlorobenzene	106-46-7
1,1,2-Trichloroethane	79-00-5
1,1,2,2-tetrachloroethane	79-34-5
styrene	100-42-5
1,2-Dichloroethane	107-06-2
1,2-Dibromo-3-chloropropane	96-12-8
Carbon tetrachloride	56-23-5
Chloroform	67-66-3
Bromodichloromethane	75-27-4
1,2-dibromoethane	106-93-4
trichloroethylene	79-01-6

Pennsylvania Right To Know

Quartz (SiO2)	14808-60-7
acetone	67-64-1
Toluene	108-88-3
benzene	71-43-2
o-xylene	95-47-6
ethylbenzene	100-41-4
Bromomethane	74-83-9
methyl chloride	74-87-3
1,4-dichlorobenzene	106-46-7
1,2-Dichlorobenzene	95-50-1
1,1,2-Trichloroethane	79-00-5
1,1,2,2-tetrachloroethane	79-34-5
styrene	100-42-5
1,2-Dichloroethane	107-06-2
1,2-Dibromo-3-chloropropane	96-12-8
chlorobenzene	108-90-7
dibromomethane	74-95-3
1,1,1-Trichloroethane	71-55-6
Carbon tetrachloride	56-23-5
Chloroform	67-66-3
1,1-Dichloroethane	75-34-3
Bromodichloromethane	75-27-4
1,2,3-Trichloropropane	96-18-4
1,2,4-Trimethylbenzene	95-63-6
1,2-dibromoethane	106-93-4
trichloroethylene	79-01-6
Chlorodibromomethane	124-48-1
tert-butyl methyl ether	1634-04-4
Xylene	1330-20-7
Ethyl Methyl Ketone	78-93-3

Maine Chemicals of High Concern

Quartz (SiO2)	14808-60-7
Toluene	108-88-3

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benzene	71-43-2
styrene	100-42-5
mesitylene	108-67-8
1,2-dibromoethane	106-93-4
tert-butyl methyl ether	1634-04-4

Vermont Chemicals of High Concern

Toluene	108-88-3
benzene	71-43-2
ethylbenzene	100-41-4
1,1,2,2-tetrachloroethane	79-34-5
styrene	100-42-5
mesitylene	108-67-8
Ethyl Methyl Ketone	78-93-3

Washington Chemicals of High Concern

Toluene	108-88-3
benzene	71-43-2
ethylbenzene	100-41-4
1,1,2,2-tetrachloroethane	79-34-5
styrene	100-42-5
mesitylene	108-67-8
Ethyl Methyl Ketone	78-93-3

California Prop. 65

WARNING: This product can expose you to chemicals including benzene, ethylbenzene, 1,4-dichlorobenzene, 1,1,2-Trichloroethane, 1,1,2,2-tetrachloroethane, styrene, 1,2-Dichloroethane, 1,2-Dibromo-3-chloropropane, 1,1,1-Trichloroethane, Carbon tetrachloride, Chloroform, 1,1-Dichloroethane, Bromodichloromethane, 1,2,3-Trichloropropane, 1,2-dibromoethane, trichloroethylene, which is/are known to the State of California to cause cancer, and Toluene, benzene, Bromomethane, methyl chloride, 1,2-Dibromo-3-chloropropane, Chloroform, 1,2-dibromoethane, trichloroethylene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. **The components of this product are reported in the following inventories:**

US TSCA : All substances listed as active on the TSCA inventory

TSCA list

The following substance(s) is/are subject to a Significant New Use Rule:

trichloroethylene	79-01-6	See 40 CFR § 721.10851; Final Rule

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
OSHA CARC : OSHA Specifically Regulated Chemicals/Carcinogens

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OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-3	:	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
ACGIH / TWA	:	8-hour, time-weighted average
OSHA CARC / PEL	:	Permissible exposure limit (PEL)
OSHA Z-1 / TWA	:	8-hour time weighted average
OSHA Z-3 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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US / EN

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