

DENSIFIER

SAFETY DATA SHEET

US Hazard communication standard 29 CFR 1910.1200(g) 2012

GEO40 SOL-815Na

Revision: A

Revision Date: 14 September 2018

Print Date: 14 September 2018

Section 1: Identification

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Identifiers

Product Trade Name: **Armourtech Densifier**

Product Description: Amorphous colloidal silica in water

Synonyms: SiO₂, Silica, Silicon Dioxide, Silica Sol Amorphous Silica

1.2 Relevant uses: Used as a source of Amorphous silica, binder, coagulant.

Friction development, coatings additive

1.3 Details of the supplier of the Safety Data Sheet

Company: GEO40

391 Ohaaki Rd

Ohaaki 3083

Emergency NZ Phone: 0800 CHEMCALL

Section 2: Hazards(s) Identification

Section 2: Hazards Identification

2.1	Hazard classification	Not Classified
2.2	Signal Word	Warning
2.3	Hazard Statements	Causes Mild Skin Irritation Causes Mild Skin Drying May Cause EYE Irritation May Cause Respiratory Tract Irritation

2.4 Pictograms



2.5 Precautionary Statements

P101: If medical advice is needed, have product container or label on hand

P102: Keep out of reach of children

P103: Read label before use

P261: dust/fumes/mist/vapors/spray

P262: Do not get in eyes, on skin, or on clothing

P264: Wash thoroughly after handling

P280: Wear protective gloves, clothing, and eye protection

2.6 Description of any hazards not otherwise classified: None

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Section 3: Composition/Information on Ingredients

3. Composition/Information on Ingredients

3.1 Chemical Name: Colloidal Silica dioxide solution
Common Name: Colloidal Silica
Synonyms: SiO₂, Silica, Silicon Dioxide, Silica Sol Amorphous silica

3.2 Mixture Components:	CAS#	Concentration (wt.%)
Silicon dioxide:	7631-86-9	29.5%-31.0%
Water:	7732-18-5	69.0%-70.5%
Silicic acid, sodium salt	1344-09-8	<1.0%

Section 4: First - Aid Measures

4 First Aid Measures

4.1 General Advise Consult Physician, show this SDS to the physician.

If inhaled: Move person to fresh air. If not breathing, give artificial respiration.

In case of eye contact: Flush eyes with water as precaution. Consult physician if irritation develops.

In case of skin contact: Wash affected area with soap and water. Remove contaminated clothing.

If swallowed: Never give anything by mouth. Do not induce vomiting and consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most likely symptoms of exposure: Mild irritation of the affected area
Acute and delayed symptoms: No information available.

4.3 Recommendations for immediate medical care or special treatment; when necessary treat symptomatically.

Section 5: Fire - Fighting Measures

5. Fire Fighting Measures

5.1 Extinguishing Media: Use extinguishing media appropriate for local circumstances and surrounding environment. The product is non-combustible.

5.2 Specific hazard from the chemical exposed to fire: No hazards to be specifically mentioned.

5.3 Special protective equipment or Precautions for Fire Fighters: Use standard procedure for chemical fires.

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Section 6: Accidental Release Measures

- 6. Accidental Release Measures
 - 6.1 Personal precautions and protective equipment
Wear the appropriate protective gear for the specific situation
For further information, see section 8: Personal Protection Information
 - 6.2 Emergency Procedures
In case of release: Stop release if able to do so safely
Evacuate the surrounding area if deemed appropriate.
Contain the release if possible and in a safe manner
Spills may be reportable to national, state, or local agencies
Obey all relevant local, state, and federal laws and regulations.
Do not contaminate any streams, lakes, ponds, groundwater or soil
 - 6.3 Containment methods and materials: Contain spills by all methods appropriate, such as damming, capping drains.
 - 6.4 Clean-up methods should be appropriate for a water based material.
Vacuuming, pumping, and specialized equipment can be used
Absorbing the product into inert material can be used
Contain the material in appropriate containers
Obey all relevant local, state, and federal laws and regulations

Section 7: Handling and Storage

- 7. Handling and Storage
 - 7.1 Precautions for safe handling and use
Provide adequate ventilation, Local ventilation is indicated with airborne mists.
Handle in accordance with good industrial hygiene and safety practices
Eating, drinking and smoking should be prohibited in areas where this is used
Chemicals that are incompatible with a water based product should keep away
In cold weather, this product may freeze, irreversibly damaging the product
Mix thoroughly before use to assure homogeneity
See section 2 for other handling safety precautions
Do not release this material into the environment
 - 7.2 Storage Precautions
Store this material in a cool, non-freezing place
Store in plastic or stainless steel. Do not store in aluminum containers
Recommended storage temp is above 2 degrees C and below 43 degrees C

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Section 8: Exposure Controls / Personal Protection

Exposure Control Parameters

8.1 Control Parameters

Substance & CAS #	OSHA PEL	Cal OSHA 8-hour TWA as of 7/7/16	NIOSH REL up to 10-hour TWA as of 7/7/16	ACGIH 2016 2016 TLV 8-hour TWA	
	mppcf	mg/m ³	mg/m ³	mg/m ³	
Amorphous Silica CAS# 7631-86-9	20	80mg/m ³ (%SiO ₂)	6 (total) 3 (respirable)	6	10 (inhalable) 3 (Respirable)
Silicic acid, sodium salt 1344-09-8	No Occupational exposure limits assigned. An exposure limit of 2 mg/m ³ (15 min TWA) is recommended by analogy to sodium hydroxide.				

Acronyms'

- ACGIH American Conference of Governmental Industrial Hygienists
- NIOSH National Institute for Occupational Safety and Health
- OSHA Occupational Safety and Health Administration
- Cal OSHA California Occupational Safety and Health Administration
- TWA Time Weighted Average
- mppcf million particles per cubic foot
- mg/m³ milligrams per cubic meter
- CAS# Chemical Abstracts Service Number

8.2 Engineering Controls

Use General Industrial Hygiene Practice
Use Local Exhaust Ventilation to prevent build-up of vapours and mists

8.3 Exposure Controls: Personal Protection

Eye and Face: Approved Safety glasses and chemical splash goggles
Skin Protection: Handle with impervious gloves, nitrile rubber is recommended
Respiratory Protection: Respiratory protection is not normally required, in cases where the material is converted to mists, vapours or dusts, approved respiratory protection should be used. Use respirators and components That are approved under appropriate governmental standards.
Body Protection: Impervious clothing.
Personal Hygiene; Wash hands and any exposed area's after handling this product, before eating, drinking, using the toilet, or other activities

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Section 9: Physical and Chemical Properties

9. Physical and Chemical Properties

Appearance	Slightly opaque, translucent liquid
Physical Form	Pourable watery like liquid
Upper/Lower Flammability Limits	Not Applicable, Non-Combustible
Explosive limits	Not Applicable, Non-Combustible
Odour	Light Characteristic Smell
Vapour Pressure	Same as for water
Odour threshold	No data available
Vapour density	Same as for water
pH	9.5 - 10.2
Relative Density	1.20g/ml (25C)
Melting/Freezing point	0 degree C, 32degree F
Solubility	Water miscible, no data for other solvents
Boiling point	100 degree c same as for water
Flash point	Will not flash
Evaporation rate	No data available
Flammability	Not flammable
Partition Coefficient: n-octanol/water	No data available
Auto-ignition temperature	Not Applicable, Non-Combustible
Decomposition temperature	Material does not decompose
Viscosity	< 20 mPa.s
Index of refraction	No data available
Typical dry solids content	31%
Oxidizing properties	Not an oxidizer



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Section 10: Stability and Reactivity

- 10. Stability, Reactivity, and other
 - 10.1 Reactivity
Stable under normal conditions
 - 10.2 Chemical Stability
Stable under recommended storage conditions
 - 10.3 Possibility of hazardous reaction
No dangerous reaction known under normal conditions of use
 - 10.4 Conditions to avoid material as this could lead to creation of solids or build up of dusts.
 - 10.5 Incompatible materials
Cationic materials. Reactive metals such as aluminum and copper.
Any materials that would react with the water or silica components
 - 10.6 Hazardous decomposition products
No hazardous decomposition products are known
 - 10.7 Thermal decomposition
No hazardous thermal decomposition products are known

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Section 11: Toxicological Information

11. Toxicological Information

Acute Toxicity	Not classified based on available information
Skin Corrosion	Not classified based on available information
Serious eye damage	Not classified based on available information
Respiratory sensitization	Not classified based on available information
Skin sensitization	Not classified based on available information
Germ cell mutagenicity	Not classified based on available information
Carcinogenicity	No component of this product is greater than or equal to 1% is identified as probable, possible or confirmed carcinogen by OSHA, NTP or IARC

Reproductive toxicity	Not classified based on available information
Specific target organ Toxicity-single exposure :	No data available
Specific target organ Toxicity-repeated exposure :	No data available
Aspiration hazard	No data available

Section 12: Ecological Information

12. Ecological Information

12.1	Ecological Information	No ecological studies are available. The product is not expected to be a serious ecological hazard
12.2	Potential to persist or degrade	The product is not expected to bio-degrade The product is expected to have low or zero BOD
12.3	Toxicity	: No data available
12.4	Bioaccumulation	: No data available
12.5	Mobility in soil	: No data available
12.6	PBT and vPvB assessment	: No data available
12.7	Other adverse effects	: No data available
12.8	General Notes	: Avoid transfer to the environment

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Section 13: Disposal Considerations

13. Disposal information

13.1	Product	Offer surplus and non-recyclable solutions to a licensed disposal company
13.2	Packaging	Empty remaining contents. Empty containers should be taken to an approved waste handling site for recycling or disposal
13.3	Product & Packaging	Consult federal, state, or local regulation to insure Continued proper disposal
13.4	Sewage Disposal	Not recommended
13.5	Landfill or Incineration	Dry product or packaging: Consult federal, state, or local regulations and policy.

Section 14: Regulatory Information

14.1	UN Number	Not classed as dangerous goods
	UN Proper Shipping Name	Not classed as dangerous goods