

SAFETY DATA SHEET

according to the Globally Harmonized System and US regulation

Megasol S50

Version 1

Revision Date 12/12/2017

Print Date 01/31/2019

US / Z8

1. IDENTIFICATION

Product name : Megasol S50

Product Use Description : Specific use(s): Inorganic binder, surface modifier and flocculating agent.

Company : Nouryon Pulp and Performance
Chemicals LLC
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US

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2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	liquid
Color	clear, cloudy
Odor	slight

GHS Classification

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Carcinogenicity:

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

OSHA : No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Common Name : Amorphous Silica, aqueous colloidal solution.
Pure substance/mixture : Mixture

Hazardous ingredients

Chemical name	CAS-No.	Classification	Concentration [% W/W]
silicon dioxide	7631-86-9		>= 50 - < 70

4. FIRST AID MEASURES

General advice : No hazards which require special first aid measures.

Inhalation : If breathed in, move person into fresh air.
If symptoms persist, call a physician.

Skin contact : Remove contaminated clothing and shoes.
Rinse with water.

Eye contact : Rinse with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.

Ingestion : Clean mouth with water and drink afterwards plenty of water.
Never give anything by mouth to an unconscious person.

Notes to physician

Symptoms : No information available.

Risks : No information available.

Treatment : Treat symptomatically.

5. FIRE-FIGHTING MEASURES

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

Specific hazards during fire fighting / Specific hazards arising from the chemical : No hazards to be specially mentioned.

Combustion products : No hazardous combustion products are known

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Standard procedure for chemical fires.

See also Section 9. Physical and chemical properties: Safety data

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- Personal precautions : No conditions to be specially mentioned.
- Emergency measures on accidental release : Follow safe handling advice and personal protective equipment recommendations.
- Environmental precautions : No special environmental precautions required.
- Methods for cleaning up / Methods for containment : Wipe up with absorbent material (e.g. cloth, fleece).
Keep in suitable, closed containers for disposal.
If liquid has been spilt in large quantities clean up promptly by scoop or vacuum.
- Reference to other sections : For disposal considerations see section 13.
For personal protection see section 8.

7. HANDLING AND STORAGE

Handling

- Advice on safe handling : For personal protection see section 8.
No special handling advice required.
- Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Storage

- Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place.
Store in closed dark containers made of anti-corrosive material.
- Advice on common storage : No special restrictions on storage with other products.
- Minimum storage temperature: : Avoid temperatures below:
5 °C (41 °F)
- Maximum storage temperature: : 35 °C (95 °F)
- Other data : No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Ingredients with workplace control parameters

Ingredients	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
silicon dioxide	7631-86-9	TWA	20 Million particles per cubic foot	2012-07-01	OSHA Z-3	Dust
	Further	:	a: Based on impinger samples counted by light-field techniques.			

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	information		mppcf X 35.3 = million particles per cubic meter = particles per c.c Silica			
		TWA	80 mg/m3 / %SiO2	2012-07-01	OSHA Z-3	Dust
	Further information	:	Silica			
		TWA	6 mg/m3	2013-10-08	NIOSH REL	
	Further information	:	Silica			
		PEL	6 mg/m3	2014-11-26	CAL PEL	

ACGIH: American Conference of Governmental Industrial Hygienists

BEI: Biological Exposure Index

MAC: Maximum Allowable Concentration

NIOSH: National Institute for Occupational Safety and Health

OEL: OEL: Occupational exposure limit.

STEL: Short term exposure limit

TWA: Time Weighted Average

Hazardous substance

Substance name	CAS-No.	Value	Control parameters	Basis	Update
silicon dioxide	7631-86-9	Immediately Dangerous to Life or Health Concentration Value	3000 mg/m3	US IDLH	1995-03-01
	Further information	:	Immediately Dangerous to Life or Health Concentrations (IDLH)		

Appropriate engineering controls

Effective exhaust ventilation system

Personal protective equipment

Eye/face protection : Safety glasses

Hand protection : Glove material: PVC

: Glove material: Rubber gloves

Respiratory protection : No personal respiratory protective equipment normally required.

Hygiene measures : General industrial hygiene practice.

Environmental exposure controls

General advice : No special environmental precautions required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form : liquid

Color : clear
cloudy

Odor : slight

Odor Threshold : No data available

Safety data

pH	: 9 - 11
Melting point/range	: 0 °C
Boiling point/boiling range	: 100 °C
Flash point	: Not applicable
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Flammability (liquids)	: The product is not flammable.
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Vapor pressure	: ca. 23 hPa at 20 °C
Relative vapor density	: No data available
Relative density	: ca. 1.400
Water solubility	: dispersible
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: Not applicable
Autoignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, dynamic	: < 50 mPa.s
Viscosity, kinematic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: Not classified as oxidizing.

This material safety datasheet only contains information relating to safety and does not replace any product information or product specification.

10. STABILITY AND REACTIVITY

Conditions to avoid	: Avoid allowing solution to dry as this can lead to a build-up of dust.
Materials to avoid	: Copper Mild steel Aluminum
Hazardous decomposition	: No hazardous decomposition products are known.

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products

- Thermal decomposition : No data available
- Reactivity : Stable under normal conditions.
- Chemical stability : Stable under recommended storage conditions.
- Hazardous reactions : No dangerous reaction known under conditions of normal use.

11. TOXICOLOGICAL INFORMATION

PRODUCT INFORMATION:

Hazard Summary

- Acute toxicity : Not classified based on available information.
- Skin corrosion/irritation : Not classified based on available information.
- Serious eye damage/eye irritation : Not classified based on available information.
- Respiratory or skin sensitization : 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 : Not classified based on available information.
- Reproductive toxicity : Not classified based on available information.
- STOT-single exposure : Not classified based on available information.
- STOT-repeated exposure : Not classified based on available information.
- Aspiration hazard : Not classified based on available information.

Potential Health Effects

- Inhalation : May cause respiratory tract irritation.
- Skin : Causes mild skin irritation.
- Eyes : May cause eye irritation.
- Ingestion : May cause irritation of the mucous membranes.
- Aggravated Medical Condition : None known.
- Symptoms of Overexposure : No information available.

Toxicology Assessment

- Further information : Information given is based on data on the ingredients and the toxicology of similar products.

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Test result

- Acute oral toxicity : LD50: > 5,000 mg/kg
Species: Rat
The value is estimated from tests on similar products.
- Sensitization : Result: Did not cause sensitization on laboratory animals.
Method: (Magnusson-Kligman);
The value is estimated from tests on similar products.
- Germ cell mutagenicity
Genotoxicity in vitro : Ames test
Result: negative
Method: OECD Test Guideline 471
The value is estimated from tests on similar products.

Carcinogenicity:

- IARC** : No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- OSHA** : No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
- 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.

TOXICOLOGY DATA FOR THE INGREDIENTS:

Test result

Component: silicon dioxide

- Acute oral toxicity : LD50: > 10,000 mg/kg
Species: Rat

12. ECOLOGICAL INFORMATION

PRODUCT INFORMATION:

Ecotoxicology Assessment

- Additional ecological information : None known.

Test result

Ecotoxicity effects

- Toxicity to fish : LC50: > 5,000 mg/l
Exposure time: 96 h
Species: Danio rerio (zebra fish)
The value is estimated from tests on similar products.
- Toxicity to daphnia and other aquatic invertebrates : EC50: 7,600 mg/l
Exposure time: 48 h
Species: Ceriodaphnia dubia (water flea)
The value is estimated from tests on similar products.

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Toxicity to algae : NOEC: 60 mg/l
Exposure time: 48 h
Species: Selenastrum capricornutum (green algae)
The value is estimated from tests on similar products.

EC50: 120 mg/l
Exposure time: 48 h
Species: Selenastrum capricornutum (green algae)
The value is estimated from tests on similar products.

EC10: 140 mg/l
Exposure time: 48 h
Species: Selenastrum capricornutum (green algae)
The value is estimated from tests on similar products.

Elimination information (persistence and degradability)

Bioaccumulation : Bioaccumulation is not expected.

Mobility : No test results
Under extreme circumstances, transport from earth to water may take place.

Distribution among environmental compartments : Transport to air is not expected.

Biodegradability : Result: Not applicable
inorganic

Further information on ecology

Biochemical Oxygen Demand (BOD) : No data available

Hazardous to the ozone layer

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).

INGREDIENTS:

Ecotoxicology Assessment

Component: silicon dioxide

Additional ecological information : No data available

13. DISPOSAL CONSIDERATIONS

Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

International Regulations

ADR

Not regulated as a dangerous good

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Further information for transport

Not classified as dangerous in the meaning of transport regulations.

Domestic regulation

49 CFR

Not regulated as a dangerous good

TDG

Not regulated as a dangerous good

NOM-002-SCT

Not regulated as a dangerous good

15. REGULATORY INFORMATION

Notification status

DSL : YES. All components of this product are on the Canadian DSL
AICS : YES. On the inventory, or in compliance with the inventory
NZIoC : YES. On the inventory, or in compliance with the inventory
ENCS : YES. On the inventory, or in compliance with the inventory
ISHL : YES. On the inventory, or in compliance with the inventory
KECI : YES. On the inventory, or in compliance with the inventory
PICCS : YES. On the inventory, or in compliance with the inventory
IECSC : YES. On the inventory, or in compliance with the inventory
TCSI : YES. On the inventory, or in compliance with the inventory
TSCA : YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption.

For explanation of abbreviations, see section 16.

TSCA list

TSCA 5(a)(2) : No substances are subject to a Significant New Use Rule.
TSCA 12(b) : No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

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SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

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 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 subject to disclosure and 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 SOCM Intermediate or Final VOC's (40 CFR 60.489).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

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

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION

Full text of other abbreviations

CAL PEL	:	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA Z-3	:	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
CAL PEL / PEL	:	Permissible exposure limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA Z-3 / TWA	:	8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada);

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ECx - Concentration associated with x% response; 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 Harmonized System; GLP - Good Laboratory Practice; 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 Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; 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; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

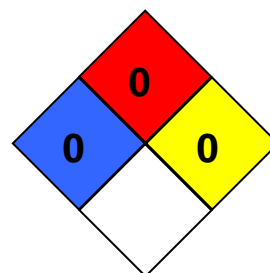
Further information

HMIS Classification

: Health Hazard: 0
Chronic Health Hazard: /
Flammability: 0
Physical hazards: 0

NFPA Classification

: Health Hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0



Notification status explanation

REACH	1907/2006 (EU)
DSL	Canadian Domestic Substances List (DSL)
AICS	Australia Inventory of Chemical Substances (AICS)
NZIoC	New Zealand. Inventory of Chemical Substances
ENCS	Japan. ENCS - Existing and New Chemical Substances Inventory
ISHL	Japan. ISHL - Inventory of Chemical Substances
KECI	Korea. Korean Existing Chemicals Inventory (KECI)
PICCS	Philippines Inventory of Chemicals and Chemical Substances (PICCS)
IECSC	China. Inventory of Existing Chemical Substances in China (IECSC)
TCSI	Taiwan Chemical Substance Inventory (TCSI)
TSCA	United States TSCA Inventory

Further information

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The information in this material safety data sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. The user must determine the appropriate measures that need to be implemented for the use and handling of this product in the context of the user's operations and use of this product. The information contained herein supersedes all previously issued bulletins on the subject matter covered. If the date on this document is more than three years old, call to make certain that this sheet is current. No warranty is made as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. User must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes, including mixing with other products. Nothing contained herein shall be construed as granting or extending any license under any patent.

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