SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

- Trade name TIXOSIL® 38A

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

Uses of the Substance / Mixture

- Food/ feedstuff additives
- Flow improver
- Carrier

1.3 Details of the supplier of the safety data sheet

Company

Solvay USA Inc.,
SILICA,
504 CARNEGIE CENTER
PRINCETON NJ 08540, USA
Tel.: 844-564-6116

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT CHEMTREC (24-Hour Number): 800-424-9300 within the United States and Canada, or 703-527-3887 for international collect calls.

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture

HCS 2012 (29 CFR 1910.1200)

- Not a hazardous product according to the OSHA Globally Harmonized System (GHS).

2.2 Label elements

HCS 2012 (29 CFR 1910.1200)

- Not a hazardous product according to the OSHA Globally Harmonized System (GHS).

2.3 Other hazards which do not result in classification

- Mild respiratory irritant
- By mechanical effect
- Slightly irritating to eyes and skin.
- NO particular fire or explosion hazard.
- Electrostatic charges may build up by swirling, pneumatic transport, pouring etc.

SECTION 3: Composition/information on ingredients

3.1 Substance

Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [%]
Results are expressed in relation to the dry product. Alternative CAS #: 7631-86-9		
Precipitated Amorphous Silica	112926-00-8	>= 97

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

3.2 Mixture

- Not applicable, this product is a substance.

SECTION 4: First aid measures

4.1 Description of first-aid measures

In case of inhalation

- Move to fresh air.
- Keep at rest.
- If symptoms persist, call a physician.

In case of skin contact

- If on skin, rinse well with water.
- If skin irritation persists, call a physician.

In case of eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- If eye irritation persists, consult a physician.

In case of ingestion

- Rinse mouth with water.
- If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Effects

- Skin contact may aggravate existing skin disease
- Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

- Treat symptomatically.
- There is no specific antidote available.

SECTION 5: Firefighting measures

Flash point Not applicable (nonflammable solid)

Autoignition temperature not auto-flammable

Flammability / Explosive limit Lower flammability/explosion limit : Not applicable
Upper flammability/explosion limit : Not applicable

5.1 Extinguishing media

Suitable extinguishing media

- All extinguishing agents can be used.
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

- None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting

- Not combustible.
- Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations.

Hazardous combustion products:

- No hazardous combustion products are known

5.3 Advice for firefighters

Special protective equipment for fire-fighters

- Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

- Wear full protective clothing and self-contained breathing apparatus.
- Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Specific fire fighting methods

- Use appropriate means for fighting adjacent fires.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Avoid contact with eyes.
- Safety glasses
- Personal protective equipment
- Respiratory protection

6.2 Environmental precautions

- No harmful effect to the environment is known or expected under normal conditions of use.

6.3 Methods and materials for containment and cleaning up

Recovery

- Sweep up and shovel into suitable containers for disposal.

Decontamination / cleaning

- Wash off with plenty of water.
- Recover the cleaning water for subsequent disposal.

Disposal

- Treat recovered material as described in the section "Disposal considerations".

Additional advice

- Avoid dust formation.

6.4 Reference to other sections

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations.
- Ensure all equipment is electrically grounded before beginning transfer operations.

- Avoid dust formation.

Hygiene measures

- Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
- 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- 3) Wash exposed skin promptly to remove accidental splashes or contact with material.

Dust explosion class

- St0

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

- Do not stack big-bags.

- Protect from moisture.
- Store away from heat.

Packaging material

Suitable material

- Polypropylene bags
- Paper bags

7.3 Specific end use(s)

- no data available

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters

Components with workplace occupational exposure limits

Components	Value type	Value	Basis
Precipitated Amorphous Silica	See table Z-3		Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
Precipitated Amorphous Silica	TWA	20 Million particles per cubic foot	Occupational Safety and Health Administration - Table Z-3 Mineral Dusts
	Form of exposure : Dust Based on impinger samples counted by light-field techniques., mppcf X 35.3 = million particles per cubic meter = particles per c.cExpressed as :Silica		
Precipitated Amorphous Silica	TWA	80 mg/m3 / %SiO2	Occupational Safety and Health Administration - Table Z-3 Mineral Dusts
	Form of exposure : Dust Expressed as :Silica		
Precipitated Amorphous Silica	TWA	6 mg/m3	National Institute for Occupational Safety and Health
	Expressed as :Silica		
Precipitated Amorphous Silica	TWA	4 mg/m3	Solvay Acceptable Exposure Limit
Particulates not otherwise regulated	PEL	15 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
	Form of exposure : Total dust		
Particulates not otherwise regulated	PEL	5 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
	Form of exposure : Respirable fraction		

8.2 Exposure controls

Control measures

Engineering measures

- Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures :

- Local exhaust
- Dust must be extracted directly at the point of origin.

Individual protection measures

Respiratory protection
- When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.
- Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate local standard(s):
- Respirator with a dust filter

Hand protection
- For prolonged or repeated contact use protective gloves.

Eye protection
- Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.
- Eye contact should be prevented through the use of:

- Safety glasses

Skin and body protection
- Long sleeved clothing

Hygiene measures
- Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
- 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- 3) Wash exposed skin promptly to remove accidental splashes or contact with material.

Protective measures
- The protective equipment must be selected in accordance with current local standards and in cooperation with the supplier of the protective equipment.
- Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the potential hazards, and/or risks that may occur during use.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

Appearance	Form:	powder
	Physical state:	solid
	Color:	white
Odor	None.	
Odor Threshold	Not applicable	
Molecular weight	60.2 g/mol	
pH	5.0 - 9.0 (5 % (m / m))	

	(aqueous suspension)
Melting point/freezing point	Melting point/range: > 3,092 °F (> 1,700 °C)
Initial boiling point and boiling range	Not applicable
Sublimation point	Not applicable
Flash point	Not applicable (nonflammable solid)
Evaporation rate (Butylacetate = 1)	Not applicable
Flammability (solid, gas)	Not applicable
Flammability / Explosive limit	Lower flammability/explosion limit: Not applicable Upper flammability/explosion limit: Not applicable
Autoignition temperature	not auto-flammable
Vapor pressure	Not applicable
Vapor density	Not applicable
Density	2.1 g/cm3 Intrinsic Bulk density: 200 - 300 kg/m3 Packaged Product
Relative density	No data available
Solubility	Water solubility: 120 - 160 mg/l (68 °F (20 °C)) Solubility in other solvents: No data available
Partition coefficient: n-octanol/water	Not applicable
Decomposition temperature	Not applicable
Viscosity	Viscosity, dynamic : Not applicable Viscosity, kinematic : Not applicable
Explosive properties	Not applicable
Oxidizing properties	Not considered as oxidizing.

9.2 Other information

Oxidation / Reduction Potential	Not applicable
Hygroscopicity	hygroscopic
Dust explosion constant	Particle size < 63µm St0

SECTION 10: Stability and reactivity

10.1 Reactivity

- No hazards to be specially mentioned.

10.2 Chemical stability

- Stable under normal conditions.

10.3 Possibility of hazardous reactions

- No dangerous reaction known under conditions of normal use.

spontaneous polymerization
- Hazardous polymerization does not occur.

10.4 Conditions to avoid

- None known.

10.5 Incompatible materials

- Chlorine trifluoride
- Fluorine
- Hydrogen fluoride
- Oxygen Difluoride
- Strong oxidizing agents

10.6 Hazardous decomposition products

- No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity	LD50 : > 5,000 mg/kg - Rat Unpublished reports
Acute inhalation toxicity	Risk of physical blockage of the upper respiratory tract By analogy An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.
Acute dermal toxicity	LD50 > 5,000 mg/kg - Rabbit Unpublished reports
Acute toxicity (other routes of administration)	No data available
Skin corrosion/irritation	Prolonged or repeated contact may dry skin and cause irritation.
Serious eye damage/eye irritation	Dust contact with the eyes can lead to mechanical irritation.

Respiratory or skin sensitization	Humans no cutaneous sensitization reaction observed Unpublished reports

Mutagenicity

Genotoxicity in vitro	In vitro tests did not show mutagenic effects Unpublished reports
Genotoxicity in vivo	In vivo tests did not show mutagenic effects Unpublished reports
Carcinogenicity	Rat Oral exposure Animal testing did not show any carcinogenic effects. Unpublished reports Mouse Oral exposure Animal testing did not show any carcinogenic effects. Unpublished reports

This product does not contain any ingredient designated as probable or suspected human carcinogens by:

NTP
IARC
OSHA

Toxicity for reproduction and development

Toxicity to reproduction / fertility	Fertility and developmental toxicity tests did not reveal any effect on reproduction., Unpublished reports

Developmental Toxicity/Teratogenicity

Precipitated Amorphous Silica	Rat, Oral General Toxicity Maternal NOAEL: 1,350 mg/kg bw/day Teratogenicity NOAEL:1,350mg/kg bw/day Method: OECD Test Guideline 414 no embryotoxic or teratogenic effects have been observed, Unpublished reports Mouse, Oral General Toxicity Maternal NOAEL: 1,340 mg/kg bw/day Teratogenicity NOAEL:1,340mg/kg bw/day Method: OECD Test Guideline 414 no embryotoxic or teratogenic effects have been observed, Unpublished reports

STOT

STOT-single exposure	The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.
STOT-repeated exposure	The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria. If inhaled No irreversible effect or symptom of silicosis were observed during the inhalation toxicity tests. Unpublished reports

Oral exposure No irreversible effects were observed during chronic oral toxicity tests.
Unpublished reports

Neurological effects No neurotoxic effects observed.

Experience with human exposure

Experience with human exposure : Inhalation

Mild respiratory irritant
Unpublished reports

Aspiration toxicity Not applicable

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

LC50 - 96 h : > 10,000 mg/l - Danio rerio (zebra fish)
Unpublished reports

Acute toxicity to daphnia and other aquatic invertebrates

EC50 - 24 h : > 1,000 mg/l - Daphnia magna (Water flea)
Unpublished reports

Toxicity to aquatic plants

Precipitated Amorphous Silica

By analogy

EL50 - 72 h : > 10,000 mg/l - Desmodesmus subspicatus (green algae)
static test
Endpoint: Growth rate
Method: OECD Test Guideline 201
No quantifiable LC/LL50 or EC/EL50 at the limit of solubility
Freshwater species
Result expressed in nominal loading rate (product tested as a saturated solution or as a WAF/WSF)
Unpublished reports

By analogy

NOELR - 72 h : 10,000 mg/l - Desmodesmus subspicatus (green algae)
static test
Endpoint: Growth rate
Method: OECD Test Guideline 201
No quantifiable EC/EL10 or NOEC/NOELR at the limit of solubility
Freshwater species
Result expressed in nominal loading rate (product tested as a saturated solution or as a WAF/WSF)
Unpublished reports

Toxicity to microorganisms No data available

Chronic toxicity to fish No data available

Chronic toxicity to daphnia and other aquatic invertebrates No data available

12.2 Persistence and degradability

Abiotic degradation

Photodegradation

Precipitated Amorphous Silica	Photodegradation The product is chemically stable. Not expected

Physical- and photo-chemical elimination	No data available

Biodegradation

Biodegradability	Inert mineral product. Not degradable.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water	No data available
Bioconcentration factor (BCF)	Not bioaccumulable. Published data

12.4 Mobility in soil

Adsorption potential (Koc)

Precipitated Amorphous Silica	Mobility Soil/sediments complexation/precipitation Solubility(ies) Water non-significant hydrolysis Volatility Air
Known distribution to environmental compartments	Ultimate destination of the product: Soil Ultimate destination of the product: Sediment

12.5 Results of PBT and vPvB assessment

Precipitated Amorphous Silica	Not applicable, inorganic substance

12.6 Other adverse effects

Ecotoxicity assessment

Short-term (acute) aquatic hazard	The product does not have any known adverse effects on the aquatic organisms tested

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- Chemical additions, processing or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local

requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Prohibition

- Should not be released into the environment.

Waste Code

- Environmental Protection Agency
- Hazardous Waste – NO

Advice on cleaning and disposal of packaging

- Cleaning is not required prior to disposal.
- Dispose of in accordance with local regulations.

SECTION 14: Transport information

DOT
not regulated

TDG
not regulated

NOM
not regulated

IMDG
not regulated

IATA
not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information

15.1 Notification status

Inventory Information	Status
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australia Inventory of Chemical Substances (AICS)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory

Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIOC inventory. The HSNO status of the product has not been assessed.
EU. European Registration, Evaluation, Authorisation and Restriction of Chemical (REACH)	- When purchased from a Solvay legal entity based in the EEA ("European Economic Area"), this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.

Additional Information

- for USA Inventory (TSCA) purposes, this product is identified as: Silica (CAS-No. : 7631-86-9)

15.2 Federal Regulations

US. EPA EPCRA SARA Title III

SARA HAZARD DESIGNATION SECTIONS 311/312 (40 CFR 370)

No SARA Hazards

Section 313 Toxic Chemicals (40 CFR 372.65)
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.

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)
This material does not contain any components with a section 302 EHS TPQ.

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)
This material does not contain any components with a SARA 302 RQ.

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)
This material does not contain any components with a section 304 EHS RQ.

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

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

15.3 State Regulations

- no data available

SECTION 16: Other information

NFPA (National Fire Protection Association) - Classification

Health	1 slight
Flammability	0 minimal
Instability or Reactivity	0 minimal

HMIS (Hazardous Materials Identification System (Paint & Coating)) - Classification

Health	1 slight
Flammability	0 minimal
Reactivity	0 minimal
PPE	Determined by User; dependent on local conditions

Further information

- Update
- See section 1
- See section 15
- Distribute new edition to clients

Date Prepared: 12/11/2019

Key or legend to abbreviations and acronyms used in the safety data sheet

- PEL: Permissible exposure limit (PEL)
- TWA: Time weighted average
- SAEL: Solvay Acceptable Exposure Limit
- ACGIH: American Conference of Governmental Industrial Hygienists
- OSHA: Occupational Safety and Health Administration
- NTP: National Toxicology Program
- IARC: International Agency for Research on Cancer
- NIOSH: National Institute for Occupational Safety and Health
- ADR: European Agreement on International Carriage of Dangerous Goods by Road.
- ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
- RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
- IATA: International Air Transport Association.
- ICAO-TI: Technical Specification for Safe Transport of Dangerous Goods by Air.
- IMDG: International Maritime Dangerous Goods.
- TWA: Time weighted average
- ATE: Estimated value of acute toxicity
- EC: European Community number
- CAS: Chemical Abstracts Service.
- LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
- LC50: Substance concentration causing 50% (half) death in the test animals group.
- EC50: Effective Concentration of the substance causing the maximum of 50%.
- PBT: Persistent, Bioaccumulative and Toxic substance.
- vPvB: Very Persistent and Very Bioaccumulative.
- SEA: Classification, labeling, packaging regulation
- DNEL: Derived No Effect Level
- PNEC: Predicted No Effect Concentration
- BHOT: Specific Target Organ Toxicity

Not all acronyms listed above are referenced in this SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.