

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

- Trade name SOLVair® Select 150

1.2 Relevant identified uses of the substance or mixture and uses advised against**Uses of the Substance / Mixture**

- Purifying flue gas

1.3 Details of the supplier of the safety data sheet**Company**

SOLVAY CHEMICALS, INC.
3737 Buffalo Speedway,
Suite 800,
Houston, TX 77098
USA
Tel: +1-800-7658292; +1-713-5256800
Fax: +1-713-5257804

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CONTACT: CHEMTREC 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)**

Eye irritation, Category 2B
Eye irritation, Category 2B

H320: Causes eye irritation.
H320: Causes eye irritation.

2.2 Label elements**HCS 2012 (29 CFR 1910.1200)****Signal Word**

- Warning

Hazard Statements

- H320 Causes eye irritation.

Precautionary Statements**Prevention**

- P264 Wash skin thoroughly after handling.

Response

- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.

Signal Word

- Warning

Hazard Statements

- H320 Causes eye irritation.

Precautionary StatementsPrevention

- P264 Wash skin thoroughly after handling.

Response

- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.

Additional Labeling

- The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 98 %

2.3 Other hazards which do not result in classification

- H402: Harmful to aquatic life.
- H402: Harmful to aquatic life.

SECTION 3: Composition/information on ingredients**3.1 Substance**

- Not applicable, this product is a mixture.

3.2 Mixture**Hazardous Ingredients and Impurities**

Chemical name	Identification number CAS-No.	Concentration [%]
Carbonic acid, sodium salt (2:3)	533-96-0	>= 95 - < 99
Amorphous Silica	112926-00-8	>= 1 - < 5

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

Carbonic acid, sodium salt (2:3)	533-96-0	>= 90
Amorphous Silica	112926-00-8	< 2

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

SECTION 4: First aid measures**4.1 Description of first-aid measures****In case of inhalation**

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

In case of skin contact

- Wash off with soap and water.
- If symptoms persist, call a physician.
- Remove and wash contaminated clothing before re-use.

In case of eye contact

- If eye irritation persists, consult a specialist.
- In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

In case of ingestion

- If symptoms persist, call a physician or Poison Control Center immediately.
- If victim is conscious:
 - Do NOT induce vomiting.
- If victim is conscious:
 - Rinse mouth with water.
- If victim is unconscious:
 - Not applicable

4.2 Most important symptoms and effects, both acute and delayed**In case of inhalation****Effects**

- May cause nose, throat, and lung irritation.

Repeated or prolonged exposure

- Risk of sore throat, nose bleeds

In case of skin contact**Effects**

- Prolonged skin contact may cause skin irritation.

In case of eye contact**Symptoms**

- Lachrymation
- Redness

Effects

- Severe eye irritation

In case of ingestion**Effects**

- Irritation of the mouth and throat.
- Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

- no data available

SECTION 5: Firefighting measures**Flash point**

Not applicable

Autoignition temperature

no data available

Flammability / Explosive limit

Lower flammability/explosion limit : The product is not flammable.

5.1 Extinguishing media**Suitable extinguishing media**

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

- None.

5.2 Special hazards arising from the substance or mixture**Specific hazards during fire fighting**

- Not combustible.

Hazardous combustion products:

- none

5.3 Advice for firefighters**Special protective equipment for fire-fighters**

- No special precautions required.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****Advice for non-emergency personnel**

- Avoid dust formation.

Advice for emergency responders

- Sweep up to prevent slipping hazard.

6.2 Environmental precautions

- Prevent any mixture with an acid into the sewer/drain (gas formations).
- Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

- Sweep up and shovel into suitable containers for disposal.
- Keep in properly labeled containers.
- Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

- no data available

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

- Keep away from incompatible products
- Ensure adequate ventilation.

Hygiene measures

- Eye wash bottles or eye wash stations in compliance with applicable standards.
- When using do not eat or drink.
- When using do not smoke.
- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

- Keep in a dry place.
- Store in original container.
- Keep in properly labeled containers.
- Keep container closed.
- Keep away from incompatible products

Packaging material**Suitable material**

- Paper + PE coating.

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**

Ingredients	Value type	Value	Basis
Carbonic acid, sodium salt (2:3)	TWA	10 mg/m3	Solvay Acceptable Exposure Limit
Amorphous Silica			Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
		See table Z-3	
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.c.Expressed as :Silica	
Amorphous Silica	TWA	80 mg/m3 / %SiO2	Occupational Safety and Health Administration - Table Z-3 Mineral Dusts
		Form of exposure : Dust Expressed as :Silica	
Amorphous Silica	TWA	6 mg/m3	National Institute for Occupational Safety and Health
		Expressed as :Silica	
Amorphous Silica	TWA	4 mg/m3	Solvay Acceptable Exposure Limit
Carbonic acid, sodium salt (2:3)	TWA	10 mg/m3	Solvay Acceptable Exposure Limit
Amorphous Silica			Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants

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Amorphous Silica	TWA	6 mg/m3	National Institute for Occupational Safety and Health
	Expressed as :Silica		
Amorphous Silica	TWA	4 mg/m3	Solvay Acceptable Exposure Limit

8.2 Exposure controls

Control measures

Engineering measures

- Ensure adequate ventilation.
- Provide appropriate exhaust ventilation at machinery.

Individual protection measures

Respiratory protection

- Effective dust mask
- Use only respiratory protection that conforms to international/ national standards.
- Use NIOSH approved respiratory protection.

Hand protection

- Wear suitable gloves.

Eye protection

- Chemical resistant goggles must be worn.

Skin and body protection

- Dust impervious protective suit

Hygiene measures

- Eye wash bottles or eye wash stations in compliance with applicable standards.
- When using do not eat or drink.
- When using do not smoke.
- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

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

<u>Appearance</u>	Form: fine powder Physical state: solid Color: off-white tan tan
<u>Odor</u>	odorless musty
<u>Odor Threshold</u>	no data available
<u>pH</u>	9.8 (2 g/l)
<u>Melting point/freezing point</u>	no data available
<u>Initial boiling point and boiling range</u>	no data available
<u>Flash point</u>	Not applicable
<u>Evaporation rate (Butylacetate = 1)</u>	no data available
<u>Flammability (solid, gas)</u>	no data available
<u>Flammability (liquids)</u>	no data available
<u>Flammability / Explosive limit</u>	<u>Lower flammability/explosion limit:</u> Type: Lower explosion limit The product is not flammable.
	<u>Explosiveness:</u> Not explosive
<u>Autoignition temperature</u>	no data available
<u>Vapor pressure</u>	no data available
<u>Vapor density</u>	no data available
<u>Density</u>	<u>Bulk density:</u> 1,000 kg/m ³
<u>Relative density</u>	2.11
<u>Solubility</u>	no data available
<u>Partition coefficient: n-octanol/water</u>	Not applicable
<u>Decomposition temperature</u>	no data available
<u>Viscosity</u>	no data available
<u>Explosive properties</u>	no data available

Oxidizing properties

Not considered as oxidizing.

9.2 Other information

no data available

SECTION 10: Stability and reactivity**10.1 Reactivity**

- no data available

10.2 Chemical stability

- Decomposes by reaction with strong acids.
- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

- no data available

10.4 Conditions to avoid

- none

10.5 Incompatible materials

- Acids
- Finely divided aluminum

10.6 Hazardous decomposition products

- none

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity****Acute oral toxicity**

Carbonic acid sodium salt (1:2)

LD50 : 2,800 mg/kg - Rat , male and female
The product has a low acute toxicity
Unpublished reports**Acute inhalation toxicity**

Carbonic acid sodium salt (1:2)

no data available

Acute dermal toxicity

Carbonic acid sodium salt (1:2)

LD50 : > 2,000 mg/kg - Rabbit
Method: according to a standardized method
Not classified as hazardous for acute dermal toxicity according to GHS.
No mortality observed at this concentration.
Unpublished reports**Acute toxicity (other routes of administration)**

no data available

<u>Skin corrosion/irritation</u>	Mild skin irritation
<u>Serious eye damage/eye irritation</u>	Mild eye irritation
<u>Respiratory or skin sensitization</u>	no data available
<u>Mutagenicity</u>	
Genotoxicity in vitro Carbonic acid sodium salt (1:2)	By analogy Ames test with metabolic activation Product is not considered to be genotoxic Published data Strain: Escherichia coli without metabolic activation negative Product is not considered to be genotoxic Published data
Genotoxicity in vivo	no data available
<u>Carcinogenicity</u>	no data available

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

NTP
IARC
OSHA
OSHA
ACGIH
ACGIH
NTP
IARC

Toxicity for reproduction and development

Toxicity to reproduction / fertility no data available

Developmental Toxicity/Teratogenicity

Carbonic acid sodium salt (1:2) Mouse , female
Application Route: Oral
NOAEL teratogenicity: >= 580 mg/kg
NOAEL maternal: >= 580 mg/kg
Method: according to a standardized method
no embryotoxic or teratogenic effects have been observed
Unpublished reports

STOT**STOT-single exposure**

Carbonic acid sodium salt (1:2)

The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.
internal evaluation

STOT-repeated exposure

Carbonic acid sodium salt (1:2)

The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.
internal evaluation

Aspiration toxicity

no data available

Further information

no data available

Information given is based on data obtained from similar substances.

Irritating to eyes.

SECTION 12: Ecological information**12.1 Toxicity****Aquatic Compartment****Acute toxicity to fish**

LC50 - 96 h : 30 - 1,200 mg/l - Fishes, various species
Test substance: Sodium carbonate

LC50 - 96 h : 7,550 mg/l - Gambusia affinis (Mosquito fish)
Test substance: Sodium bicarbonate

Acute toxicity to daphnia and other aquatic invertebrates.

LC50 - 48 h : 115 - 150 mg/l - Crustaceans, Daphnia sp.
Test substance: Sodium carbonate

LC50 - 48 h : 2,350 mg/l - Daphnia magna (Water flea)
Test substance: Sodium bicarbonate

Toxicity to aquatic plants

no data available

Toxicity to microorganisms

no data available

Chronic toxicity to fish

no data available

Chronic toxicity to daphnia and other aquatic invertebrates.

no data available

Chronic Toxicity to aquatic plants

no data available

12.2 Persistence and degradability**Abiotic degradation****Stability in water**

Hydrolysis
Medium, Water, Degradation products: carbonic acid/bicarbonate/carbonate,
acid/base equilibrium as a function of pH

Photodegradation

Medium, Soil, Hydrolysis as a function of pH
Not applicable
Medium
Air

Physical- and photo-chemical elimination

no data available

Biodegradation**Biodegradability**

aerobic
Not applicable

anaerobic
Not applicable

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water no data available

Bioconcentration factor (BCF) Not applicable

12.4 Mobility in soil**Adsorption potential (Koc)**

Water
considerable solubility and mobility

Soil/sediments
non-significant adsorption

Air
Not applicable

Known distribution to environmental compartments

Amorphous Silica Ultimate destination of the product: Soil

Sediment

Amorphous Silica Ultimate destination of the product: Soil

Sediment

12.5 Results of PBT and vPvB assessment no data available

12.6 Other adverse effects no data available

Ecotoxicity assessment

Acute aquatic toxicity

Amorphous Silica

The product does not have any known adverse effects on the aquatic organisms tested

Amorphous Silica

The product does not have any known adverse effects on the aquatic organisms tested

Remarks

alkaline, Ecological injuries are not known or expected under normal use.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- In accordance with local and national regulations.
- For unused and uncontaminated product, the preferred options include sending to a licensed, permitted: recycler, reclaimer.
- or
- Dissolve in water.
- Neutralize with acid.

Waste Code

- Environmental Protection Agency
- Hazardous Waste – NO
- RCRA Hazardous Waste (40 CFR 302)
- Hazardous Waste – NO

Advice on cleaning and disposal of packaging

- To avoid treatments, as far as possible, use dedicated containers.
- Clean container with water.
- Dispose of rinse water in accordance with local and national regulations.
- or
- Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.
- The empty and clean containers are to be reused in conformity with regulations.

SECTION 14: Transport information

DOT

not regulated

TDG

not regulated

NOM

not regulated

IMDG

not regulated

P02000027893

Version : 1.04 / US (Z8)

www.solvay.com



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	- Listed on Inventory
United States TSCA Inventory	- One or more components not listed on inventory
New Zealand. Inventory of Chemical Substances	- All components on composite list considered for transfer
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Canadian Domestic Substances List (DSL)	- One or more components not listed on inventory
Australia Inventory of Chemical Substances (AICS)	- Listed on Inventory
Australia Inventory of Chemical Substances (AICS)	- One or more components not listed on inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- One or more components not listed on inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- One or more components not listed on inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- One or more components not listed on inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- One or more components not listed on inventory

15.2 Federal Regulations**US. EPA EPCRA SARA Title III****SARA HAZARD DESIGNATION SECTIONS 311/312 (40 CFR 370)**

Fire Hazard	no
Reactivity Hazard	no
Sudden Release of Pressure Hazard	no
Acute Health Hazard	yes
Chronic Health Hazard	yes

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.

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)

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

This material does not contain any components with a SARA 302 RQ.

This material does not contain any components with a SARA 302 RQ.

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

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

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.

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

15.3 State Regulations

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

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

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

SECTION 16: Other information

NFPA (National Fire Protection Association) - Classification

Health	1 slight
Flammability	0 minimal
Instability or Reactivity	0 minimal
Special Notices	None

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

- Product evaluated under the US GHS format.

Date Prepared: 03/17/2017

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

- TWA 8-hour time weighted average
- || - SAEL Solvay Acceptable Exposure Limit

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- | | |
|---------|---|
| - 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 |

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.