

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

- Trade name SOLVair® Select 300

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 WHMIS 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**2.2 Label elements****2.3 Other hazards which do not result in classification**

- This substance is not classified as dangerous according to Directive 67/548/EEC.

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

- Not applicable, this product is a mixture.

3.2 Mixture**WHMIS Hazardous Ingredients and Impurities**

Chemical name	Identification number CAS-No.	Concentration [% wt/wt or V/V]
Carbonic acid sodium salt (1:1)	144-55-8	>= 95

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

- Remove to fresh air.

In case of skin contact

- Wash off with plenty of water.

In case of eye contact

- Rinse thoroughly with plenty of water, also under the eyelids.
- If eye irritation persists, consult a specialist.

In case of ingestion

- If a large amount is swallowed, get medical attention.
- If victim is conscious:
 - If swallowed, rinse mouth with water (only if the person is conscious).
- If victim is unconscious:
 - Not applicable

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

- Mechanical irritation from the particulates generated by the product.

In case of skin contact**Effects**

- No hazards to be specially mentioned.

Repeated or prolonged exposure

- Contact with dust can cause mechanical irritation or drying of the skin.

In case of eye contact**Effects**

- Mechanical irritation from the particulates generated by the product.

In case of ingestion**Effects**

- 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**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**

- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.

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

- Evacuate personnel to safe areas.
- Avoid dust formation.

Advice for emergency responders

- Sweep up to prevent slipping hazard.
- Prevent further leakage or spillage.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

- Sweep up and shovel into suitable containers for disposal.
- Avoid dust formation.
- Keep in properly labeled containers.
- Keep in suitable, closed containers for disposal.
- Treat recovered material as described in the section "Disposal considerations".
- Keep in suitable, closed containers for disposal.
- Pick up and transfer to properly labeled containers.

6.4 Reference to other sections

- no data available

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

- Minimize dust generation and accumulation.
- Avoid contact with skin and eyes.
- Ensure adequate ventilation.
- Keep away from incompatible products

Hygiene measures

- When using do not eat, drink or 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

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Version : 1.04 / CA (Z8)

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Technical measures/Storage conditions

- Keep in a dry place.
- Store in original container.
- Keep container closed.

- Keep in properly labeled containers.

- Avoid dust formation.
- Refer to protective measures listed in sections 7 and 8.

- Keep away from:
- Incompatible products

Packaging material**Suitable material**

- Paper.
- Polyethylene

7.3 Specific end use(s)

- Contact your supplier for additional information

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**

Consult local authorities for acceptable exposure limits.

Ingredients	Value type	Value	Basis
Particles not otherwise specified (PNOS)	TWA	10 mg/m ³	American Conference of Governmental Industrial Hygienists
<p>Form of exposure : Inhalable fraction</p> <p>The goal of the TLV®-CS Committee is to recommend TLVs® for all substances for which there is evidence of health effects at airborne concentrations encountered in the workplace. When a sufficient body of evidence exists for a particular substance, a TLV® is established. Thus, by definition the substances covered by this recommendation are those for which little data exist. The recommendation at the end of this Appendix is supplied as a guideline rather than a TLV® because it is not possible to meet the standard level of evidence used to assign a TLV®. In addition, the PNOS TLV® and its predecessors have been misused in the past and applied to any unlisted particles rather than those meeting the criteria listed below. The recommendations in this Appendix apply to particles that: - Do not have an applicable TLV®; - Are insoluble or poorly soluble in water (or, preferably, in aqueous lung fluid if data are available); and - Have low toxicity (i.e. are not cytotoxic, genotoxic or otherwise chemically reactive with lung tissue, and do not emit ionizing radiation, cause immune sensitization, or cause toxic effects other than by inflammation or the mechanism of 'lung overload'). ACGIH® believes that even biologically inert, insoluble, or poorly soluble particles may have adverse effects and recommends that airborne concentrations should be kept below 3 mg/m³, respirable particles, and 10 mg/m³, inhalable particles, until such time as a TLV® is set for a particular substance.</p>			
Particles not otherwise specified (PNOS)	TWA	3 mg/m ³	American Conference of Governmental Industrial Hygienists

Form of exposure : Respirable fraction

The goal of the TLV®-CS Committee is to recommend TLVs® for all substances for which there is evidence of health effects at airborne concentrations encountered in the workplace. When a sufficient body of evidence exists for a particular substance, a TLV® is established. Thus, by definition the substances covered by this recommendation are those for which little data exist. The recommendation at the end of this Appendix is supplied as a guideline rather than a TLV® because it is not possible to meet the standard level of evidence used to assign a TLV®. In addition, the PNOS TLV® and its predecessors have been misused in the past and applied to any unlisted particles rather than those meeting the criteria listed below. The recommendations in this Appendix apply to particles that: - Do not have an applicable TLV®; - Are insoluble or poorly soluble in water (or, preferably, in aqueous lung fluid if data are available); and - Have low toxicity (i.e. are not cytotoxic, genotoxic or otherwise chemically reactive with lung tissue, and do not emit ionizing radiation, cause immune sensitization, or cause toxic effects other than by inflammation or the mechanism of 'lung overload'). ACGIH® believes that even biologically inert, insoluble, or poorly soluble particles may have adverse effects and recommends that airborne concentrations should be kept below 3 mg/m³, respirable particles, and 10 mg/m³, inhalable particles, until such time as a TLV® is set for a particular substance.

Components with workplace occupational exposure limits

Ingredients	Value type	Value	Basis
Carbonic acid sodium salt (1:1)	TWA	10 mg/m ³	Solvay Acceptable Exposure Limit

8.2 Exposure controls**Control measures****Engineering measures**

- Ensure adequate ventilation.
- Provide appropriate exhaust ventilation at places where dust is formed.
- Refer to protective measures listed in sections 7 and 8.
- Apply technical measures to comply with the occupational exposure limits.

Individual protection measures**Respiratory protection**

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

Hand protection

- Wear suitable gloves.

Eye protection

- Dust proof goggles, if dusty.

Skin and body protection

- None.

Hygiene measures

- When using do not eat, drink or 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>	<u>Form:</u> crystalline, powder <u>Physical state:</u> solid <u>Color:</u> white white
<u>Odor</u>	odorless
<u>Odor Threshold</u>	no data available
<u>Molecular weight</u>	84.02 g/mol
<u>pH</u>	8.6 (ca. 52 g/l)
<u>Melting point/freezing point</u>	<u>Melting point/range:</u> () <u>Decomposition:</u> yes Not applicable
<u>Initial boiling point and boiling range</u>	<u>Boiling point/boiling range:</u> () <u>Thermal decomposition:</u> yes Not applicable
<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>	The product is not flammable.
<u>Vapor pressure</u>	Not applicable
<u>Vapor density</u>	Not applicable
<u>Density</u>	<u>Bulk density:</u> 500 - 1,200 kg/m ³
<u>Relative density</u>	no data available

<u>Solubility</u>	<u>Water solubility:</u> 96 g/l (68 °F (20 °C)) <u>Solubility in other solvents:</u> Other : soluble
<u>Partition coefficient: n-octanol/water</u>	Alcohol : slightly soluble Not applicable
<u>Decomposition temperature</u>	> 140 °F (> 60 °C)
<u>Viscosity</u>	<u>Viscosity, dynamic :</u> 1.2 mPa.s
<u>Explosive properties</u>	no data available
<u>Oxidizing properties</u>	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

- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

- no data available

10.4 Conditions to avoid

- Extremes of temperature and direct sunlight.
- Exposure to moisture.
- To avoid thermal decomposition, do not overheat.

10.5 Incompatible materials

- Acids

10.6 Hazardous decomposition products

- none

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity LD50 : > 4,000 mg/kg - Rat

Acute inhalation toxicity LC50 > 4.74 mg/l - Rat

Acute dermal toxicity Carbonic acid sodium salt (1:1)	no data available
Acute toxicity (other routes of administration)	no data available
<u>Skin corrosion/irritation</u>	Rabbit Mild skin irritation
<u>Serious eye damage/eye irritation</u>	Rabbit Mild eye irritation
<u>Respiratory or skin sensitization</u>	no data available
<u>Mutagenicity</u>	
Genotoxicity in vitro	in vitro test Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
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:

IARC
ACGIH

Toxicity for reproduction and development

Toxicity to reproduction / fertility	no data available
Developmental Toxicity/Teratogenicity	Various species Gavage Test period: 10 days NOAEL teratogenicity: 330 mg/kg Did not show teratogenic effects in animal experiments.

STOT

STOT-single exposure Carbonic acid sodium salt (1:1)	Routes of exposure: Oral, Inhalation The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria. internal evaluation
STOT-repeated exposure	no observed effect

<u>Aspiration toxicity</u>	no data available
<u>Further information</u>	Health injuries are not known or expected under normal use.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish	LC50 - 96 h : 7,700 mg/l - Oncorhynchus mykiss (rainbow trout)
	NOEC - 96 h : 2,300 mg/l - Oncorhynchus mykiss (rainbow trout)
	LC50 - 96 h : 7,100 mg/l - Lepomis macrochirus (Bluegill sunfish)
	NOEC - 96 h : 5,200 mg/l - Lepomis macrochirus (Bluegill sunfish)

Acute toxicity to daphnia and other aquatic invertebrates.	EC50 - 48 h : 4,100 mg/l - Daphnia magna (Water flea)
	NOEC - 48 h : 3,100 mg/l - Daphnia magna (Water flea)

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.

Carbonic acid sodium salt (1:1) NOEC: > 576 mg/l - 21 Days - Daphnia magna (Water flea)
 semi-static test
 Analytical monitoring: no
 Method: OECD Test Guideline 211
 Highest concentration tested
 Published data
 No adverse chronic effect observed up to and including the threshold of 1 mg / L.

Chronic Toxicity to aquatic plants no data available

12.2 Persistence and degradability

Abiotic degradation

Stability in water	hydrolyzes Medium, Water, acid/base equilibrium as a function of pH, Degradation products: carbonic acid/bicarbonate/carbonate
<u>Physical- and photo-chemical elimination</u>	no data available
<u>Biodegradation</u>	
Biodegradability	The methods for determining the biological degradability are not applicable to inorganic substances.
12.3 Bioaccumulative potential	
Partition coefficient: n-octanol/water Carbonic acid sodium salt (1:1)	Not applicable, inorganic substance
Bioconcentration factor (BCF)	Not applicable
12.4 Mobility in soil	
Adsorption potential (Koc)	Water/soil/sediments Solubility(ies) Water/soil/sediments Mobility
Known distribution to environmental compartments	no data available
12.5 Results of PBT and vPvB assessment	Not applicable
12.6 Other adverse effects	no data available
Ecotoxicity assessment	
Acute aquatic toxicity Carbonic acid sodium salt (1:1)	Not harmful to aquatic life (LC/LL50, EC/EL50 > 100 mg/L)
Chronic aquatic toxicity Carbonic acid sodium salt (1:1)	No adverse chronic effect observed up to and including the threshold of 1 mg / L.
Remarks	Ecological injuries are not known or expected under normal use.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- Contact waste disposal services.
- If recycling is not practicable, dispose of in compliance with local regulations.
- or
- Dilute with plenty of water.
- Neutralize with acid.
- In accordance with local and national regulations.

Advice on cleaning and disposal of packaging

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

SECTION 14: Transport information**TDG**

not regulated

DOT

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	- 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
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

15.2 National Regulations

no data available

SECTION 16: Other information**Revision Date:**

03/17/2017

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

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

- TWA	8-hour, 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

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.