

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

- Trade name HALAR® 6014

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

- For industrial use only.

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

SOLVAY SPECIALTY POLYMERS USA, LLC  
4500 McGINNIS FERRY ROAD  
30005-3914, ALPHARETTA  
USA  
Tel: +1-770-7728200  
Fax: +1-770-7728213  
Product Information:  
+1-800-2210553

**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)**

Combustible dust

May form combustible dust concentrations in air.

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

- Warning

**Hazard Statements**

- May form combustible dust concentrations in air.

**2.3 Other hazards which do not result in classification**

None identified

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

- Not applicable, this product is a mixture.

**3.2 Mixture****Hazardous Ingredients and Impurities**

- No ingredients are hazardous.

**Non Hazardous Ingredients and Impurities**

Chemical name	Identification number CAS-No.	Concentration [%]
Polymer of Ethene, Chlorotrifluoroethene and Hexafluoroisobutene	54302-04-4	>= 99

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

- Remove the subject from dusty environment and let him blow his nose.

***Exposure to decomposition products***

- Move to fresh air.
- Oxygen or artificial respiration if needed.
- Symptoms of poisoning may develop many hours after exposure.
- Keep under medical supervision for at least 48 hours.

**In case of skin contact**

- Wash off with soap and water.

***Exposure to decomposition products***

- Wash off with soap and water.
- If fingers/finger nails are touched, even if there is no pain, dip them in a bath of 5% calcium gluconate for 15 to 20 minutes.
- Consult a physician.

**In case of eye contact**

- In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

***Exposure to decomposition products***

- Rinse immediately with plenty of water, also under the eyelids.
- Remove contact lenses.

**In case of ingestion**

- If large quantities of this material are swallowed, call a physician immediately.
- Never give anything by mouth to an unconscious person.

**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.
- The thermal decomposition vapors of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.

**Symptoms**

- Headache
- Shortness of breath
- Cough

**In case of skin contact****Effects**

- Mechanical irritation from the particulates generated by the product.

**Symptoms*****Exposure to decomposition products***

- Irritation
- Redness
- Burn

**In case of eye contact****Effects**

- Mechanical irritation from the particulates generated by the product.

**Symptoms*****Exposure to decomposition products***

- Irritation
- Redness
- Burn

**In case of ingestion****Effects**

- Low ingestion hazard.

**4.3 Indication of any immediate medical attention and special treatment needed**

- no data available

**SECTION 5: Firefighting measures****Flash point**

The product is not flammable.

**Autoignition temperature**

no data available

**Flammability / Explosive limit**

no data available

**5.1 Extinguishing media****Suitable extinguishing media**

- Water
- powder
- Foam
- Dry chemical
- Carbon dioxide (CO<sub>2</sub>)

**Unsuitable extinguishing media**

- None.

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

- The product is not flammable.
- Not explosive
- In case of fire hazardous decomposition products may be produced such as:

**Hazardous combustion products:**

- Gaseous hydrogen fluoride (HF).
- Fluorophosgene
- Gaseous hydrogen chloride (HCl).
- Other hazardous decomposition products may be formed.

### 5.3 Advice for firefighters

#### Special protective equipment for fire-fighters

- Wear self-contained breathing apparatus and protective suit.
- When intervention in close proximity wear acid resistant over suit.

#### Further information

- Evacuate personnel to safe areas.
- Approach from upwind.
- Protect intervention team with a water spray as they approach the fire.
- Keep containers and surroundings cool with water spray.
- Keep product and empty container away from heat and sources of ignition.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### Advice for non-emergency personnel

- Prevent further leakage or spillage if safe to do so.

#### Advice for emergency responders

- Ensure adequate ventilation.
- Avoid dust formation.
- Material can create slippery conditions.
- Sweep up to prevent slipping hazard.
- Keep away from open flames, hot surfaces and sources of ignition.

### 6.2 Environmental precautions

- Should not be released into the environment.
- The product should not be allowed to enter drains, water courses or the soil.
- In case of accidental release or spill, immediately notify the appropriate authorities if required by Federal, State/Provincial and local laws and regulations.

### 6.3 Methods and materials for containment and cleaning up

- Sweep up or vacuum up spillage and collect in suitable container for disposal.

### 6.4 Reference to other sections

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

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Ensure adequate ventilation.
- Avoid dust formation.
- Use personal protective equipment.
- Do not contaminate tobacco products.
- Keep away from heat and sources of ignition.
- To avoid thermal decomposition, do not overheat.
- Take measures to prevent the build up of electrostatic charge.
- Clean and dry piping circuits and equipment before any operations.
- Ensure all equipment is electrically grounded before beginning transfer operations.

**Hygiene measures**

- Ensure that eyewash stations and safety showers are close to the workstation location.
- 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****Technical measures/Storage conditions**

- Keep away from heat and sources of ignition.
- Keep in properly labeled containers.
- Keep away from combustible material.
- Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- Keep away from incompatible products
- Provide tight electrical equipment well protected against corrosion.
- Refer to protective measures listed in sections 7 and 8.

**Packaging material****Suitable material**

- glass
- Metals
- Plastic materials.
- cardboard outer-packaging

**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**

- Contains no substances with occupational exposure limit values.

**Components with workplace occupational exposure limits**

Ingredients	Value type	Value	Basis
Particles not otherwise specified (PNOS)			National Institute for Occupational Safety and Health
			Includes all inert or nuisance dusts, whether mineral, inorganic, not listed specifically in 1910.1000., See Appendix D - Substances with No Established RELs
Particles not otherwise specified (PNOS)	TWA	15 mg/m <sup>3</sup>	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
			Form of exposure : total dust All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z-3.
Particles not otherwise specified (PNOS)	TWA	5 mg/m <sup>3</sup>	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants

	Form of exposure : respirable fraction All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z-3.		
Particles not otherwise specified (PNOS)	TWA	10 mg/m3	American Conference of Governmental Industrial Hygienists
	Form of exposure : Inhalable fraction		
Particles not otherwise specified (PNOS)	TWA	3 mg/m3	American Conference of Governmental Industrial Hygienists
	Form of exposure : Respirable fraction		

**Threshold limit values of by-products from thermal decomposition:****Components with workplace occupational exposure limits**

Ingredients	Value type	Value	Basis
Hydrofluoric acid	TWA	3 ppm 2.5 mg/m3	National Institute for Occupational Safety and Health
Hydrofluoric acid	C	6 ppm 5 mg/m3	National Institute for Occupational Safety and Health
	15 minute ceiling value		
Hydrofluoric acid	TWA	3 ppm	Occupational Safety and Health Administration - Table Z-2
	Z37.28-1969		
Hydrofluoric acid	TWA	0.5 ppm	American Conference of Governmental Industrial Hygienists
	Danger of cutaneous absorption Expressed as :Fluorine		
Hydrofluoric acid	C	2 ppm	American Conference of Governmental Industrial Hygienists
	Danger of cutaneous absorption Expressed as :Fluorine		
Hydrofluoric acid			Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
	See Table Z-2 Expressed as :Fluorine		
Carbonyl difluoride	TWA	2 ppm	American Conference of Governmental Industrial Hygienists
Carbonyl difluoride	STEL	5 ppm	American Conference of Governmental Industrial Hygienists
Carbonyl difluoride	TWA	2 ppm 5 mg/m3	National Institute for Occupational Safety and Health

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Carbonyl difluoride	ST	5 ppm 15 mg/m3	National Institute for Occupational Safety and Health
hydrogen chloride (gas)	C	2 ppm	American Conference of Governmental Industrial Hygienists
hydrogen chloride (gas)	C	5 ppm 7 mg/m3	National Institute for Occupational Safety and Health
Often used in an aqueous solution.			
hydrogen chloride (gas)	C	5 ppm 7 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
The value in mg/m3 is approximate., Ceiling limit is to be determined from breathing-zone air samples.			

**Biological Exposure Indices**

Ingredients	Value type	Value	Basis
Hydrofluoric acid	BEI	2 mg/l Fluoride Urine Prior to shift (16 hours after exposure ceases)	American Conference of Governmental Industrial Hygienists
Hydrofluoric acid	BEI	3 mg/l Fluoride Urine End of shift (As soon as possible after exposure ceases)	American Conference of Governmental Industrial Hygienists

## 8.2 Exposure controls

### Control measures

#### **Engineering measures**

- Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.
- Provide local ventilation appropriate to the product decomposition risk (see section 10).
- Refer to protective measures listed in sections 7 and 8.
- Apply technical measures to comply with the occupational exposure limits.
  
- For additional information, consult the current edition of The Guide to the Safe Handling of Fluoropolymers published by the Society of Plastics Industry, Inc. (SPI) Fluoropolymer Division.

### Individual protection measures

#### **Respiratory protection**

- When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Use respirator when performing operations involving potential exposure to vapor of the product.
- 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.
- Comply with OSHA respiratory protection requirements.
- For additional information, consult the current edition of The Guide to the Safe Handling of Fluoropolymers published by the Society of Plastics Industry, Inc. (SPI) Fluoropolymer Division.

#### **Hand protection**

- Wear protective gloves.
- Protective gloves - impervious chemical resistant:

##### ***Suitable material***

- Nitrile rubber
- PVC
- Neoprene gloves
- butyl-rubber

- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

#### **Eye protection**

- Safety glasses with side-shields
- In case of high-temperature processing
- Tightly fitting safety goggles

#### **Skin and body protection**

- Long sleeved clothing

#### **Hygiene measures**

- Ensure that eyewash stations and safety showers are close to the workstation location.
- 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**

<b><u>Appearance</u></b>	<u>Form:</u> powder <u>Physical state:</u> solid <u>Color:</u> white
<b><u>Odor</u></b>	odorless
<b><u>Odor Threshold</u></b>	no data available
<b><u>pH</u></b>	no data available
<b><u>Melting point/freezing point</u></b>	<u>Melting point/range:</u> 446 - 468 °F (230 - 242 °C)
<b><u>Initial boiling point and boiling range</u></b>	<u>Boiling point/boiling range:</u> () Not applicable
<b><u>Flash point</u></b>	The product is not flammable.
<b><u>Evaporation rate (Butylacetate = 1)</u></b>	no data available
<b><u>Flammability (solid, gas)</u></b>	The product is not flammable.
<b><u>Flammability / Explosive limit</u></b>	May form combustible dust concentrations in air. no data available
<b><u>Autoignition temperature</u></b>	no data available
<b><u>Vapor pressure</u></b>	no data available
<b><u>Vapor density</u></b>	no data available
<b><u>Density</u></b>	1.65 - 1.71 g/cm3
<b><u>Relative density</u></b>	no data available
<b><u>Solubility</u></b>	<u>Water solubility:</u> insoluble  <u>Solubility in other solvents:</u> common organic solvents : insoluble
<b><u>Partition coefficient: n-octanol/water</u></b>	no data available
<b><u>Decomposition temperature</u></b>	> 572 °F (> 300 °C)
<b><u>Viscosity</u></b>	no data available
<b><u>Explosive properties</u></b>	Not explosive
<b><u>Oxidizing properties</u></b>	Not considered as oxidizing.

**9.2 Other information**

no data available

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

- No dangerous reaction known under conditions of normal use.

**10.2 Chemical stability**

- Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

- Under certain conditions, small dust-particles from the product may form flammable and explosive mixtures with the air.

**10.4 Conditions to avoid**

- To avoid thermal decomposition, do not overheat.
- Keep away from flames and sparks.

**10.5 Incompatible materials**

- Combustible material
- Flammable materials
- Alkali metals (molten form)

**10.6 Hazardous decomposition products**

- Gaseous hydrogen fluoride (HF).
- Fluorophosgene
- Gaseous hydrogen chloride (HCl).
- Other hazardous decomposition products may be formed.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity****Acute oral toxicity** no data available**Acute inhalation toxicity** no data available**Acute dermal toxicity** no data available**Acute toxicity (other routes of administration)** no data available**Skin corrosion/irritation** no data available**Serious eye damage/eye irritation** no data available

**Respiratory or skin sensitization** no data available

**Mutagenicity**

**Genotoxicity in vitro** no data available

**Genotoxicity in vivo** no data available

**Carcinogenicity** no data available

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

NTP  
IARC  
OSHA  
ACGIH

**Toxicity for reproduction and development**

**Toxicity to reproduction / fertility** no data available

**Developmental Toxicity/Teratogenicity** no data available

**STOT**

**STOT-single exposure** no data available

**STOT-repeated exposure** no data available

**Aspiration toxicity** no data available

**Further information**

Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several ingredients.  
Product dust may be irritating to eyes, skin and respiratory system.

The thermal decomposition vapors of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.

Thermal decomposition can lead to release of toxic and corrosive gases.  
The exposure to decomposition products causes severe irritation of eyes, skin and mucous membranes.

**SECTION 12: Ecological information**

**12.1 Toxicity**

**Aquatic Compartment**

**Acute toxicity to fish** no data available

**Acute toxicity to daphnia and other aquatic invertebrates.** no data available

<b>Toxicity to aquatic plants</b>	no data available
<b>Toxicity to microorganisms</b>	no data available
<b>Chronic toxicity to fish</b>	no data available
<b>Chronic toxicity to daphnia and other aquatic invertebrates.</b>	no data available
<b>Chronic Toxicity to aquatic plants</b>	no data available

**12.2 Persistence and degradability**

<b><u>Abiotic degradation</u></b>	no data available
<b><u>Physical- and photo-chemical elimination</u></b>	no data available
<b><u>Biodegradation</u></b>	no data available

**12.3 Bioaccumulative potential**

<b>Partition coefficient: n-octanol/water</b>	no data available
<b>Bioconcentration factor (BCF)</b>	no data available

**12.4 Mobility in soil**

<b>Adsorption potential (Koc)</b>	no data available
<b>Known distribution to environmental compartments</b>	no data available

**12.5 Results of PBT and vPvB assessment** no data available

**12.6 Other adverse effects** no data available

**Remarks** Ecological injuries are not known or expected under normal use.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

**Product Disposal**

- Do not dump into any sewers, on the ground, or into any body of water. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations.
- Waste characterizations and compliance with applicable laws and regulations are the responsibility of the waste generator.
- Can be incinerated, when in compliance with local regulations.
- The incinerator must be equipped with a system for the neutralization or recovery of HF.

**Advice on cleaning and disposal of packaging**

- Empty containers can be landfilled, when in accordance with the 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**

<b>Inventory Information</b>	<b>Status</b>
United States TSCA Inventory	- Listed on Inventory
Canadian Domestic Substances List (DSL)	- One or more components not listed on inventory
Canadian Non-Domestic Substances List (NDSL)	- In compliance with the inventory
Australia Inventory of Chemical Substances (AICS)	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Japan. ISHL - Inventory of Chemical Substances	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- One or more components not listed on inventory
New Zealand. Inventory of Chemical Substances	- Listed on Inventory
Taiwan. Chemical Substance Inventory (TCSI)	- Listed on Inventory
EU. European Registration, Evaluation, Authorisation and Restriction of Chemical (REACH)	- If product is purchased from Solvay in Europe it is in compliance with REACH, if not please contact the supplier.

**15.2 Federal Regulations****US. EPA EPCRA SARA Title III****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)**

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)**

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****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.

**SECTION 16: Other information**

**Further information**

- Product evaluated under the US GHS format.

**Date Prepared:** 07/24/2017

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

- |         |  |
|---------|--|
| - C     | Ceiling limit  |
| - ST    | STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday |
| - STEL  | Short-term exposure limit  |
| - TWA   | 8-hour, time-weighted average  |
| - 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.