

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

- Trade name FLUOROLINK® P 56

**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 (24-Hour Number): +1-800-424-9300 within the United States and Canada, or +1-703-527-3887 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**

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**

Chemical name	Identification number CAS-No.	Concentration [%]
2-Propanol	67-63-0	>= 1 - < 5
2-Butanone	78-93-3	>= 1 - < 5

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

**Non Hazardous Ingredients and Impurities**

Chemical name	Identification number CAS-No.	Concentration [%]
Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymers with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and reduced Me esters of reduced polymd. oxidized tetrafluoroethylene, compds. with triethylamine	328389-91-9	< 30
Water	7732-18-5	> 70

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

- Move to fresh air in case of accidental inhalation of fumes from overheating or combustion.
- Oxygen or artificial respiration if needed.

**In case of skin contact**

- Wash off with soap and water.

**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 specialist.

**In case of ingestion**

- Drink 1 or 2 glasses of water.
- Do NOT induce vomiting.
- If symptoms persist, call a physician.

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

- Inhalation may provoke the following symptoms:
- Headache
- Cough
- Nausea

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

- No known effect.

**In case of eye contact**

**Effects**

- Contact with eyes may cause irritation.
- Redness

**In case of ingestion****Symptoms**

- Ingestion may provoke the following symptoms:
- Nausea
- Vomiting
- Abdominal pain

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

- no data available

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

boils before flash

**Autoignition temperature**

No data available

**Flammability / Explosive limit**

Lower flammability/explosion limit : 1.80 %(V)  
, methyl ethyl ketone  
Upper flammability/explosion limit : 10.10 %(V)  
, methyl ethyl ketone

**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: Gaseous hydrogen fluoride (HF), Fluorophosgene

**Hazardous combustion products:**

- Gaseous hydrogen fluoride (HF).
- Fluorophosgene
- The release of other hazardous decomposition products is possible.

**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.
- 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**

- 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.
- Should not be released into the environment.
- Do not flush into surface water or sanitary sewer system.

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

- Soak up with inert absorbent material.
- Suitable material for picking up.
- Dry sand
- Earth
- Shovel into 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.
- Use personal protective equipment.
- 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 in properly labeled containers.
- Keep away from direct sunlight.
- Store in a cool and dark place to preserve the quality of the product.
- Keep away from heat and sources of ignition.
- Keep away from combustible material.
- 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**

- Plastic materials.
- glass

**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**

Components	Value type	Value	Basis
2-Propanol	TWA	200 ppm	American Conference of Governmental Industrial Hygienists
2-Propanol	STEL	400 ppm	American Conference of Governmental Industrial Hygienists
2-Propanol	TWA	400 ppm 980 mg/m <sup>3</sup>	National Institute for Occupational Safety and Health
2-Propanol	ST	500 ppm 1,225 mg/m <sup>3</sup>	National Institute for Occupational Safety and Health
2-Propanol	TWA	400 ppm 980 mg/m <sup>3</sup>	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
2-Butanone	TWA	200 ppm 590 mg/m <sup>3</sup>	National Institute for Occupational Safety and Health
2-Butanone	ST	300 ppm 885 mg/m <sup>3</sup>	National Institute for Occupational Safety and Health

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2-Butanone	TWA	200 ppm	American Conference of Governmental Industrial Hygienists
2-Butanone	STEL	300 ppm	American Conference of Governmental Industrial Hygienists
2-Butanone	TWA	200 ppm 590 mg/m <sup>3</sup>	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants

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

Components	Value type	Value	Basis
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	C	6 ppm 5 mg/m <sup>3</sup>	National Institute for Occupational Safety and Health
Hydrofluoric acid	TWA	3 ppm 2.5 mg/m <sup>3</sup>	National Institute for Occupational Safety and Health
Hydrofluoric acid			Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants Expressed as :Fluorine
Hydrofluoric acid	TWA	3 ppm	Occupational Safety and Health Administration - Table Z-2
Carbonic difluoride	TWA	2 ppm	American Conference of Governmental Industrial Hygienists
Carbonic difluoride	STEL	5 ppm	American Conference of Governmental Industrial Hygienists
Carbonic difluoride	TWA	2 ppm 5 mg/m <sup>3</sup>	National Institute for Occupational Safety and Health
Carbonic difluoride	ST	5 ppm 15 mg/m <sup>3</sup>	National Institute for Occupational Safety and Health

**NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations)**

Components	CAS-No.	Concentration
2-Propanol	67-63-0	2000 parts per million
2-Butanone	78-93-3	3000 parts per million

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**Biological Exposure Indices**

Components	Value type	Value	Basis
2-Propanol	BEI  Nonspecific Background	40 mg/l Acetone Urine End of shift at end of workweek	American Conference of Governmental Industrial Hygienists
2-Butanone	BEI  Nonspecific	2 mg/l methyl ethyl ketone 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**

- Ensure adequate ventilation.
- 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**

- In case of insufficient ventilation, wear suitable respiratory equipment.
- In the case of vapor formation use a respirator with an approved filter.
- In case of decomposition (see section 10), use an air breathing apparatus with face mask.
- Use only respiratory protection that conforms to international/ national standards.
- Use NIOSH approved respiratory protection.
- Comply with OSHA respiratory protection requirements.

**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
- If splashes are likely to occur, wear:
- Tightly fitting safety goggles

**Skin and body protection**

- Wear work overall and safety shoes.

**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>Physical state</u></b>	liquid
<b><u>Form</u></b>	aqueous dispersion
<b><u>Color</u></b>	opaque
<b><u>Odor</u></b>	amine-like
<b><u>Odor Threshold</u></b>	No data available
<b><u>Melting point/freezing point</u></b>	<u>Melting point/range:</u> Not applicable
<b><u>Initial boiling point and boiling range</u></b>	<u>Boiling point/boiling range:</u> 172 - 176 °F (78 - 80 °C) methyl ethyl ketone
<b><u>Flammability (solid, gas)</u></b>	No data available
<b><u>Flammability (liquids)</u></b>	The product is not flammable., Does not sustain combustion.
<b><u>Flammability / Explosive limit</u></b>	<u>Lower flammability/explosion limit:</u> Type: Lower explosion limit 1.80 %(V) methyl ethyl ketone  <u>Upper flammability/explosion limit:</u> Type: Upper explosion limit 10.10 %(V) methyl ethyl ketone
<b><u>Flash point</u></b>	boils before flash
<b><u>Autoignition temperature</u></b>	No data available
<b><u>Decomposition temperature</u></b>	> 392 °F (> 200 °C)
<b><u>pH</u></b>	7.5 - 9.0
<b><u>Viscosity</u></b>	No data available
<b><u>Solubility</u></b>	<u>Water solubility:</u> completely miscible  <u>Solubility in other solvents:</u> Tetrahydrofuran: soluble



	N-Methylpyrrolidone: soluble
<b><u>Partition coefficient: n-octanol/water</u></b>	No data available
<b><u>Vapor pressure</u></b>	ca. 70.88 mmHg (94.5 hPa) methyl ethyl ketone
<b><u>Density</u></b>	1.1 g/cm <sup>3</sup>
<b><u>Relative density</u></b>	No data available
<b><u>Relative vapor density</u></b>	2.4 ( 68 °F (20 °C)) (Air = 1.0), methyl ethyl ketone
<b><u>Particle characteristics</u></b>	No data available
<b><u>Evaporation rate (Butylacetate = 1)</u></b>	No data available

**9.2 Other information**

<b><u>Oxidizing properties</u></b>	Not considered as oxidizing.
<b><u>Impact sensitivity</u></b>	Not explosive

**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**

- No dangerous reaction known under conditions of normal use.

**10.4 Conditions to avoid**

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

**10.5 Incompatible materials**

- Lewis acids (Friedel-Crafts) above 100°C
- Aluminum and magnesium in powder form above 100°C

**10.6 Hazardous decomposition products**

- Gaseous hydrogen fluoride (HF).
- Fluorophosgene
- The release of other hazardous decomposition products is possible.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects**

**Acute toxicity**

<b>Acute oral toxicity</b>	LD50 : > 2,000 mg/kg - Rat
<b>Acute inhalation toxicity</b>	No data available
<b>Acute dermal toxicity</b>	LD50 > 2,000 mg/kg - Rat
<b>Acute toxicity (other routes of administration)</b>	No data available
<b><u>Skin corrosion/irritation</u></b>	Rabbit

No skin irritation  
Method: OECD Test Guideline 404

**Serious eye damage/eye irritation**

Rabbit  
No eye irritation  
Method: OECD Test Guideline 405

**Respiratory or skin sensitization**

Guinea pig  
Method: OECD Test Guideline 406  
Did not cause sensitization on laboratory animals.

**Mutagenicity**

<b>Genotoxicity in vitro</b>	Not mutagenic in Ames Test.
<b>Genotoxicity in vivo</b>	No data available
<b><u>Carcinogenicity</u></b>	No data available

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

NTP  
IARC  
OSHA

**Toxicity for reproduction and development**

<b>Toxicity to reproduction / fertility</b>	No data available
<b>Developmental Toxicity/Teratogenicity</b>	No data available

**STOT**

<b>STOT-single exposure</b>	No data available
<b>STOT-repeated exposure</b>	No data available

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Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several ingredients.  
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**

<b>Acute toxicity to fish</b>	LC50 - 96 h : > 100 mg/l - Brachydanio rerio (zebrafish) static test Method: OECD Test Guideline 203
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<b>Acute toxicity to daphnia and other aquatic invertebrates</b>	EC50 - 48 h : > 100 mg/l - Daphnia magna (Water flea) Immobilization Method: OECD Test Guideline 202
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<b>Toxicity to aquatic plants</b>	IC50 - 72 h : > 100 mg/l - Scenedesmus subspicatus growth rate/biomass Method: OECD Test Guideline 201
<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

**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
<b><u>Degradability assessment</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** Remark(s): 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****49 CFR**

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	<ul style="list-style-type: none"> <li>- On or in compliance with the active portion of the TSCA inventory</li> <li>- Contains component(s) that meet the TSCA polymer exemption criteria of 40 CFR 723.250.</li> </ul>
Canadian Domestic Substances List (DSL)	- Listed on 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	<ul style="list-style-type: none"> <li>- Listed on Inventory</li> <li>- This substance/mixture can only be imported by Solvay. Contact Solvay for further details.</li> </ul>
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- One or more components not listed on inventory
New Zealand. Inventory of Chemical Substances	- One or more components not listed on inventory
Taiwan. Chemical Substance Inventory (TCSI)	- Listed on Inventory
EU. European Registration, Evaluation, Authorization and Restriction of Chemical	- If product is purchased from Solvay in

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(REACH)	Europe it is in compliance with REACH, if not please contact the supplier.
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**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)**

The following components are subject to reporting levels established by SARA Title III, Section 313:

Components	CAS-No.	Concentration
2-Propanol	67-63-0	1- 5%

**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)**

Components	CAS-No.	Reportable quantity
2-Butanone	78-93-3	5000 lb

**15.3 State Regulations**

- no data available

**SECTION 16: Other information****Further information**

- Product evaluated under the US GHS format.

**Date Prepared:** 07/24/2022**Key or legend to abbreviations and acronyms used in the safety data sheet**

- C: Ceiling limit
- PEL: Permissible exposure 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
- ADR: European Agreement on International Carriage of Dangerous Goods by Road.

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- 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
- STOT:	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.