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

1.1 Product identifier

- Trade name FOMBLIN® YPL 1500

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

Uses of the Substance/Mixture

- Lubricant
- For industrial use only

1.3 Details of the supplier of the safety data sheet

Company

SOLVAY SPECIALTY POLYMERS ITALY S.p.A.
VIALE LOMBARDIA, 20
20021, BOLLATE
ITALIA
Tel: +39-02-290921

E-mail address

sds.solvay@solvay.com

1.4 Emergency telephone number

+44(0)1235 239 670 [CareChem 24]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (Regulation (EC) No 1272/2008)

- Not classified as hazardous product under the regulation above.

2.2 Label elements

Regulation (EC) No 1272/2008

- Not labelled as hazardous product under the above regulation.

2.3 Other hazards which do not result in classification

- Thermal decomposition can lead to release of toxic and corrosive gases.

SECTION 3: Composition/information on ingredients

3.1 Substance

- Chemical nature Perfluorinated polyethers

Information on Components and Impurities

Chemical name	Identification number	Concentration [%]
1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd.	CAS-No. : 69991-67-9	> 99,9

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 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

Effects
- No known effect.

In case of skin contact

Effects
- Effects of skin contacts may include:
- Redness

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
- Diarrhoea

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- None

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

- Water

- powder
- Foam
- Dry chemical
- Carbon dioxide (CO2)

Unsuitable extinguishing media

- None

5.2 Special hazards arising from the substance or mixture

- The product is not flammable.
- Not explosive
- In case of fire hazardous decomposition products may be produced such as: Gaseous hydrogen fluoride (HF), Fluorophosgene

5.3 Advice for firefighters

Special protective equipment for firefighters

- 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

- 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 away from heat and sources of ignition.
- Keep in properly labelled containers.
- 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
- Stainless steel

7.3 Specific end use(s)

- Contact your supplier for additional information

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Threshold limit values of by-products from thermal decomposition:

Components with workplace occupational exposure limits

Components	Value type	Value	Basis
hydrogen fluoride	TWA	1,8 ppm 1,5 mg/m3	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
hydrogen fluoride	STEL	3 ppm 2,5 mg/m3	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

hydrogen fluoride	TWA	0,5 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Danger of cutaneous absorption Expressed as :Fluorine		
hydrogen fluoride	C	2 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Danger of cutaneous absorption Expressed as :Fluorine		
carbonyl difluoride	TWA	2,5 mg/m3	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
	Expressed as :Fluorine		
carbonyl difluoride	TWA	2 ppm	USA. ACGIH Threshold Limit Values (TLV)
carbonyl difluoride	STEL	5 ppm	USA. ACGIH Threshold Limit Values (TLV)

8.2 Exposure controls

Control measures

Engineering measures

- 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.

Individual protection measures

Respiratory protection

- In case of decomposition (see section 10), use an air breathing apparatus with face mask.
- Self-contained open-circuit compressed air breathing apparatus (EN 137)
- Self-contained closed-circuit breathing apparatus compressed (EN 145)

Hand protection

- Protective gloves complying with EN 374.

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 goggles
- Use eye protection according to EN 166.

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.

Environmental exposure controls
- Dispose of rinse water in accordance with local and national regulations.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Form: viscous Physical state: liquid Colour: transparent
Odour	odourless
Odour Threshold	No data available
Molecular weight	6.900 Da Polymer Molar Mass
pH	No data available
Melting point/freezing point	Melting point/range: Not applicable
Initial boiling point and boiling range	Boiling point/boiling range: Not applicable
Flash point	The product is not flammable.
Evaporation rate (Butylacetate = 1)	No data available
Flammability (liquids)	The product is not flammable.
Flammability/Explosive limit	No data available
Auto-ignition temperature	No data available
Vapour pressure	< 0,0000001 hPa
Vapour density	No data available
Density	1,9 g/cm3
Relative density	No data available
Solubility	Water solubility: insoluble Solubility in other solvents: Fluorinated solvents : soluble

Partition coefficient: n-octanol/water	No data available
Decomposition temperature	> 290 °C
Viscosity	Viscosity, kinematic : 1500 mm2/s (20 °C)
Explosive properties	Not explosive
Oxidizing properties	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.
- Metals promote and lower decomposition temperature

10.3 Possibility of hazardous reactions

- No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

- Avoid to use in presence of high voltage electric arc and in absence of oxygen.
- Keep away from flames.
- To avoid thermal decomposition, do not overheat.

10.5 Incompatible materials

- Alkali metals
- Lewis acids (Friedel-Crafts) above 100°C
- Aluminum and magnesium in powder form above 200°C

10.6 Hazardous decomposition products

- Gaseous hydrogen fluoride (HF).
- Fluorophosgene

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

LD50 : > 15.000 mg/kg - Rat , male and female
Test substance: Molecular weight ~ 3200
Not classified as hazardous for acute oral toxicity according to GHS.
No significant adverse effects were reported
Unpublished internal reports

Acute inhalation toxicity No data available

Acute dermal toxicity

LD50 : > 5.000 mg/kg - Rat , male and female
Test substance: Molecular weight ~ 3200
Not classified as hazardous for acute dermal toxicity according to GHS.
No effect observed at this dose or concentration
Unpublished internal reports

Acute toxicity (other routes of administration)

LD50 : > 5.000 mg/kg - Rat , for males and females
Intraperitoneal route
Test substance: Molecular weight ~ 3200
Unpublished reports

Skin corrosion/irritation

Rabbit
Not classified as irritating to skin
Test substance: Molecular weight ~ 3200
Unpublished internal reports

2 Weeks - Rabbit
No skin irritation
Method: Repeated dermal application test.
Test substance: Molecular weight ~ 3200
Unpublished internal reports

Serious eye damage/eye irritation

Rabbit
Not classified as irritating to eyes
Test substance: Molecular weight ~ 3200
Unpublished internal reports

Respiratory or skin sensitisation

Maximisation Test - Guinea pig
Does not cause skin sensitisation.
Test substance: Molecular weight ~ 3200
Unpublished internal reports

Mutagenicity

Genotoxicity in vitro

Ames test
with and without metabolic activation

negative
Test substance: Molecular weight ~ 3200
Unpublished internal reports

Genotoxicity in vivo No data available

Carcinogenicity No data available

Toxicity for reproduction and development

Toxicity to reproduction/Fertility	No data available
Developmental Toxicity/Teratogenicity	No data available

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.

Oral 28-day - Rat , male and female
NOEL: 1000 mg/kg
Test substance: Molecular weight ~ 3200
no systemic effect observed
Unpublished internal reports

Experience with human exposure	No data available

CMR effects

Mutagenicity

Not mutagenic in Ames Test

Aspiration toxicity	No data available
Further information	Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.

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

By analogy
No toxicity at the limit of solubility

Acute toxicity to daphnia and other aquatic invertebrates

By analogy
No toxicity at the limit of solubility

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

12.2 Persistence and degradability

Abiotic degradation	No data available
Physical- and photo-chemical elimination	No data available
Biodegradation	No data available
Degradability assessment	The product is not considered to be rapidly degradable in the environment

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water	No data available
Bioconcentration factor (BCF)	No data available

12.4 Mobility in soil

Adsorption potential (Koc)	No data available
Known distribution to environmental compartments	No data available

12.5 Results of PBT and vPvB assessment No data available

12.6 Other adverse effects

Ecotoxicity assessment

Short-term (acute) aquatic hazard	No toxicity at the limit of solubility
Remarks	Ecological injuries are not known or expected under normal use.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- Can be incinerated, when in compliance with local regulations.
- The incinerator must be equipped with a system for the neutralisation or recovery of HF.
- Dispose of in accordance with local regulations.

Advice on cleaning and disposal of packaging

- Empty containers can be landfilled, when in accordance with the local regulations.

SECTION 14: Transport information

ADN/ADNR
not regulated

ADR
not regulated

RID
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 transport regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Other regulations

- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, as amended
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), as amended
- European Waste Catalogue
- Waste codes should be assigned by the user based on the application for which the product was used.

Notification status

Inventory Information	Status
United States TSCA Inventory	- Listed as active on the TSCA inventory
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	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- 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 Chemical safety assessment

- A Chemical Safety Assessment is not required for this substance.

SECTION 16: Other information

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

- C Ceiling limit
- STEL Short term exposure limit
- TWA 8-hour, time-weighted average

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).
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.