



SAFETY DATA SHEET

1. Identification

Product Name: Fernfax EPO F77

SDS number S0077
Recommended use Non-ionic surfactant.
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Company name Silver Fern Chemical Inc
Address 2226 Queen Anne Avenue N.
Seattle, WA 98109

Main Telephone Number 1-866-2823384
Website www.silverfernchemical.com
E-mail info@silverfernchemical.com
Emergency #: CHEMTREC 1-800-424-9300
Emergency #: CHEMTREC 1-703-527-3887 (call collect)

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Not classified.
Environmental hazards Not classified.
OSHA defined hazards Not classified.
Label elements
Hazard symbol None.
Signal word None.
Hazard statement The mixture does not meet the criteria for classification.
Precautionary statement
Prevention Observe good industrial hygiene practices.
Response Wash hands after handling.
Storage Store away from incompatible materials. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in accordance with local/regional/national/international regulations.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information 100% of the mixture consists of component(s) of unknown acute oral toxicity. 100% of the mixture consists of component(s) of unknown acute dermal toxicity. 100% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 100% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Polyoxyalkylene glycol Polyether Polyol		9003-11-6	100

Residuals

Chemical name	Common name and synonyms	CAS number	%
Ethylene Oxide		75-21-8	0.001
Propylene Oxide		75-56-9	0.001

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments Occupational Exposure Limits for residuals are listed in Section 8.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Alcohol resistant foam. Powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Use water spray to cool unopened containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Residuals	Type	Value
Ethylene Oxide (CAS 75-21-8)	STEL	5 ppm
	TWA	1 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Residuals	Type	Value
Propylene Oxide (CAS 75-56-9)	PEL	240 mg/m ³
		100 ppm

US. ACGIH Threshold Limit Values

Residuals	Type	Value
Ethylene Oxide (CAS 75-21-8)	TWA	1 ppm
Propylene Oxide (CAS 75-56-9)	TWA	2 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Residuals	Type	Value
Ethylene Oxide (CAS 75-21-8)	Ceiling	9 mg/m ³
	TWA	5 ppm 0.18 mg/m ³ 0.1 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. It is recommended that users of this product perform a risk assessment to determine the appropriate PPE.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance**

Physical state Solid.

Form Solid. Flakes.

Color Off-white.

Odor Mild.

Odor threshold Not available.

pH Not available.

Melting point/freezing point 134.6 °F (57 °C) estimated

Initial boiling point and boiling range 392 °F (200 °C) estimated

Flash point > 212.0 °F (> 100.0 °C) Pensky-Martens Closed Cup

Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Dynamic viscosity	2.8 mPa.s @25°C
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
pH in aqueous solution	6 - 7.5 (5% in DI Water)
Specific gravity	1.06 @25°C

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong acids. Aluminum. Amines. Caustics.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not known.

Toxicological data

Residuals	Species	Test Results
Ethylene Oxide (CAS 75-21-8)		
Acute		
Inhalation		
LC50	Rat	1450 ppm, 4 Hours
Oral		
LD50	Rat	72 mg/kg
Propylene Oxide (CAS 75-56-9)		
Acute		
Oral		
LD50	Rat	380 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

ACGIH sensitization

PROPYLENE OXIDE (CAS 75-56-9)

Dermal sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Ethylene Oxide (CAS 75-21-8)

1 Carcinogenic to humans.

Propylene Oxide (CAS 75-56-9)

2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Ethylene Oxide (CAS 75-21-8)

Cancer

US. National Toxicology Program (NTP) Report on Carcinogens

Ethylene Oxide (CAS 75-21-8)

Known To Be Human Carcinogen.

Propylene Oxide (CAS 75-56-9)

Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Residuals	Species	Test Results
Ethylene Oxide (CAS 75-21-8)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 73 - 96 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethylene Oxide (CAS 75-21-8) Listed.

Propylene Oxide (CAS 75-56-9) Listed.

SARA 304 Emergency release notification

Ethylene Oxide (CAS 75-21-8) 10 LBS

Propylene Oxide (CAS 75-56-9) 100 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Ethylene Oxide (CAS 75-21-8)
Cancer
Reproductive toxicity
Mutagenicity
Central nervous system
Skin sensitization
Skin irritation
Eye irritation
respiratory tract irritation
Acute toxicity
Flammability

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Immediate Hazard - No
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Ethylene Oxide	75-21-8	10	1000		
Propylene Oxide	75-56-9	100	10000		

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Ethylene Oxide	75-21-8	0.001
Propylene Oxide	75-56-9	0.001

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Ethylene Oxide (CAS 75-21-8)
 Propylene Oxide (CAS 75-56-9)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Ethylene Oxide (CAS 75-21-8)
 Propylene Oxide (CAS 75-56-9)

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Ethylene Oxide (CAS 75-21-8) Other Flavoring Substances with OSHA PEL's

US state regulations

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Ethylene Oxide (CAS 75-21-8) Listed: July 1, 1987
 Propylene Oxide (CAS 75-56-9) Listed: October 1, 1988

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Ethylene Oxide (CAS 75-21-8) Listed: August 7, 2009

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Ethylene Oxide (CAS 75-21-8) Listed: February 27, 1987

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Ethylene Oxide (CAS 75-21-8) Listed: August 7, 2009

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Ethylene Oxide (CAS 75-21-8)
 Propylene Oxide (CAS 75-56-9)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	04-26-2017
Version #	01
HMIS® ratings	Health: 1 Flammability: 1 Physical hazard: 0
NFPA ratings	Health: 1 Flammability: 1 Instability: 0

Disclaimer

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