MATERIAL SAFETY DATA SHEET

This MSDS Complies With 29 CFR 1910.1200 (The Hazard Communication Standard)
This material safety data sheet conforms to the requirements of ANSI Z400.1

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

ESFR-46 – EcoSafe® FR-46

Manufacturer/Supplier:
American Chemical Technologies, Inc.
485 E. Van Riper Road, Fowlerville, MI 48836
Office: 517-223-0300 Fax: 517-223-1703

Emergency Spill Information:

INFOTRAC 1-800-535-5053
24 HOURS/DAY, 7 DAYS/WEEK

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS#	Range % by wt.
Polyether polyol	Proprietary	90%-100%
Additives	Proprietary	0%-10%

SECTION 3 – HAZARDS IDENTIFICATION

Emergency Overview: This product has been evaluated and does not require any hazard warning on the label under OSHA criteria.

Potential Health Effects:

Eye Contact: Weak to moderate eye irritant. Does not meet Canadian D2B or EU R36 criteria. Based on data from components and similar materials..

Skin Contact: Not expected to be a primary skin irritant. Based on data from components or similar materials. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin..

Inhalation: If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract. Based on data from components or similar materials. Under good industrial hygiene practices where all exposure limits are observed, respiratory irritation should not be a problem..

Ingestion: The LD50 in rats is between 2000 mg/kg and 5000 mg/kg. Based on data from components or similar materials. Swallowing material may cause irritation of the gastrointestinal lining, nausea, vomiting, diarrhea, and abdominal pain.

HMIS Code: (Health:1) (Flammability:1) (Reactivity:0) (Protection: N/E)

NFPA Code: (Health:1) (Flammability:1) (Reactivity:0)

SECTION 4 – FIRST AID MEASURES

Eye: Flush with water at least 30 minutes. Get medical attention if eye irritation develops or persists.

Skin: Wash with soap and water. Get medical attention if irritation develops. Launder contaminated clothing before reuse.

Inhalation: Remove exposed person to fresh air if adverse effects are observed.

Ingestion: DO NOT INDUCE VOMITING. If conscious, give 2 glasses of water. Get immediate medical attention..

Primary Routes of Entry: Ingestion, skin, inhalation of mists.

SECTION 5 – FIRE FIGHTING MEASURES

Flashpoint: 274 °C, 525 °F (Typical) **Method:** C.O.C.

Fire Point: 304 °C, 558 °F (Typical) **Method:** C.O.C.

UEL: Not determined.

LEL: Not determined.

Autoignition Temperature: 382 °C, 720 °F (Typical).

Flammability Classification: Not Flammable.

Extinguishing Media: CO2, dry chemical, or foam. Water can be used to cool and protect exposed material.

Unusual Fire and Explosion Hazards: None identified.

Fire Fighting Equipment: Recommend wearing self-contained breathing apparatus. Water may cause splattering.

Hazardous Combustion Products: Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spill Procedures: Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Ventilate area if spilled in confined space or other poorly ventilated areas. Prevent entry into sewers and waterways. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material.

SECTION 7 – HANDLING AND STORAGE

Handling: Keep containers closed when not in use. Wash thoroughly after handling. Empty container contains product residue which may exhibit hazards of product..

Storage: No special storage precautions required.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye: Safety glasses. If potential for splash or mist exists, wear chemical goggles or faceshield.

Skin: Use nitrile or neoprene gloves.

Inhalation: Use NIOSH/MSHA approved full face respirator with a combination organic vapor and dust/mist cartridge if the recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites.

Engineering Controls: Use local exhaust ventilation to control mists or vapors.

Other Protective Equipment: Long sleeve shirt is recommended. Launder contaminated clothing before reuse.

SECTION 9 – CHEMICAL AND PHYSICAL PROPERTIES

Appearance and Odor	:	Clear blue liquid with a mild odor
pH	:	Not applicable.
Viscosity	:	53.3 centistokes @ 37.8°C (100°F)
Vapor Pressure	:	Not determined.
Vapor Density	:	Not determined.
Boiling Point	:	Not determined.
Pour Point Temp	:	-48°C (-55°F)
Solubility in water	:	<1g/100g @ 25°C
Specific Gravity	:	0.99 @ 25°C (water=1)
Evaporation Rate	:	Not determined.
Percent Volatiles	:	<1%

SECTION 10 – STABILITY AND REACTIVITY

Stability: Material is normally stable at moderately elevated temperatures and pressures.

Conditions to Avoid: None identified.

Materials to Avoid: Avoid chlorine, fluorine, and other strong oxidizers.

Hazardous Decomposition: Material does not have explosive properties

Polymerization: Will not occur.

Decomposition Temperature: 226°C in air, 339°C under nitrogen.

SECTION 11 – TOXICOLOGICAL INFORMATION

- ACUTE EXPOSURE --

Dermal Toxicity	The LD50 in rabbits is > 2000 mg/Kg. Based on data from components or similar materials.
Inhalation Toxicity	No data available to indicate product or components may be a toxic inhalation hazard.
Oral Toxicity	
Dermal Sensitization	No data available to indicate product or components may be a skin sensitizer.
Inhalation Sensitization	No data available to indicate product or components may be respiratory sensitizers.

-- CHRONIC EXPOSURE --

Chronic Toxicity	No data available to indicate product or components present at greater than 1% are chronic health hazards.
Carcinogenicity	No data available to indicate any components present at greater than 0.1% may present a carcinogenic hazard.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Reproductive Toxicity	No data available to indicate either product or components present at greater than 0.1% that may cause reproductive toxicity.
Teratogenicity	No data available to indicate product or any components contained at greater than 0.1% may cause birth defects.

SECTION 12 – ECOLOGICAL INFORMATION

-- ENVIRONMENTAL TOXICITY --

Freshwater Fish Toxicity	The acute LC50 is 100 - 1000 mg/L based on similar products.

-- ENVIRONMENTAL FATE --

Biodegradation	This product will biodegrade very rapidly based on OECD 301-type test data for similar products.
Bioaccumulation	1 - 10% of the components potentially bioconcentrate, based on octanol/water coefficients.
Soil Mobility	Not determined.

SECTION 13 – DISPOSAL INFORMATION

This material, if discarded, is not a hazardous waste under RCRA Regulation 40 CFR 261..

SECTION 14 – TRANSPORTATION INFORMATION

ICAO/IATA (US)	Not regulated.
ICAO/IATA (International)	Not regulated.
IMDG	Not regulated.
IMDG EMS Fire	Not regulated.
IMDG EMS Spill	Not regulated.
IMDG MFAG	Not regulated.
IMO Marine Vessel	Not regulated.
USCG Compatibility	Not determined.
U.S. DOT Bulk	Not regulated.
U.S. DOT Non-Bulk	Not regulated.
DOT NAERG	Not regulated.
TDG Bulk	Not regulated.
TDG Non-Bulk	Not regulated.
Mexico	Not regulated.
Mexico Non-Bulk	Not regulated.
Bulk Quantity	85000 liters, 22457 gal.
Non-Bulk Quantity	207.8 liters, 55 gal.

SECTION 15 – REGULATORY INFORMATION

-- Global Chemical Inventories --

USA All components of this material are on the US TSCA Inventory or are exempt.

Other TSCA Reg.
Section 8d (10H-Phenothiazine).

EEC	All components are in compliance with the EC Seventh amendment Directive 92 /32/EEC.
Japan	All components are in compliance with the Chemical Substances Control Law of Japan.
Australia	All components are in compliance with chemical notification requirements in Australia.
Canada	All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.
Switzerland	All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.
Korea	All components are in compliance in Korea.
Philippines	All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).
China	All components of this product are listed on the Inventory of Existing Chemical Substances in China.

-- Other U.S. Federal Regulations --

SARA Ext. Haz. Subst. This product does not contain greater than 1.0% of any chemical substance on the SARA Extremely Hazardous Substances list.

SARA Section 313 This product does not contain greater than 1.0% (greater than 0.1% for carcinogenic substance) of any chemical substances listed under SARA Section 313.

SARA 311 Classifications

Acute Hazard	**No**
Chronic Hazard	**No**
Fire Hazard	**No**
Reactivity Hazard	**No**

CERCLA Hazardous Substances None known.
FDA Approval Not applicable.

-- State Regulations --

Cal. Prop. 65 This product does not intentionally contain any chemicals known by the State of California to cause cancer and/or birth defects. Moreover, American Chemical Technologies does not routinely analyze its products for impurities which may be such chemicals.

-- Product Registrations --

U.S. Fuel Registration Not applicable**.**
U.S. Dept of Agriculture This product has not been filed with the USDA to support H2 approvals.
NSF Nonfood Compounds Registration This product has not been filed with the NSF to support H1 or H2 approvals.

-- Other / International --

TDG Regulated Limit. None known.
U.S. Tariff Heading Number 3811.29.00.00
Schedule B Number 3811.29.0000

SECTION 16 – SPECIAL PRECAUTIONS

Precautionary Labels CAUTION.
MAY CAUSE EYE IRRITATION.

Prepared By: Mark D. Latunski
Date Revised: 05/13/2009
Supersedes: 08/25/2008
Date Prepared: 01/19/2001

The information provided herein is believed to be accurate to the best of the company's knowledge as of the date of its issue. We do not warrant or guarantee the information provided and will not be held liable for any loss or damage from its use.