
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1. Identification of the preparation

Product Name: ANSUL® THUNDERSTORM™ SFFF, Structural Fire Fighting Foam
Chemical Name: N/A – This is a mixture/preparation.
CAS No.: N/A – This is a mixture/preparation.
Chemical Formula: N/A – This is a mixture/preparation.
EINECS Number: N/A – This is a mixture/preparation.

1.2. Use of the preparation

The intended or recommended use of this preparation is as a FIRE EXTINGUISHING AGENT.

1.3. Company identification

Manufacturer/Supplier: ANSUL INCORPORATED
Address: One Stanton Street, Marinette, WI 54143-2542
Prepared by: Safety and Health Department
Phone: 715-735-7411
Internet/Home Page: <http://www.ansul.com>
Date of Issue: October, 2005

1.4. Emergency telephone

CHEMTREC 800-424-9300 or 703-527-3887

2. COMPOSITION/INFORMATION ON INGREDIENTS

- 2.1. Ingredient Name: Proprietary mixture consisting of high foaming hydrocarbon surfactants, organic salts and water (water >50%). Not otherwise specified.
Chemical Formula: N/A – This is a mixture/preparation.
CAS No.: N/A – This is a mixture/preparation.
EINECS Number: N/A – This is a mixture/preparation.
Concentration, Wt %: >80 %.
Hazard Identification: See Heading 3.
- Ingredient Name: Diethylene Glycol Monobutyl Ether (a).
Chemical Formula: $C_4H_9O(CH_2CH_2O)_2H$.
CAS No.: 112-34-5.
EINECS Number: 203-961-6.
Concentration, Wt %: 15%.
Hazard Identification: See Heading 3.

(a) This chemical is subject to reporting requirements of SARA Title III Section 313 and 40 CFR Section 372.

3. HAZARDS IDENTIFICATION

FOR HUMANS:

Product:

EU Classification:	Xi	Irritant.
R Phrases:	36	Irritating to eyes.
S Phrases:	2	Keep out of the reach of children.
	24	Avoid contact with skin.
	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Components:

Diethylene Glycol Monobutyl Ether:

EU Classification:	Xi	Irritant.
R Phrases:	36	Irritating to eyes.
S Phrases:	2	Keep out of the reach of children.
	24	Avoid contact with skin.
	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Limit Values for Exposure:

Diethylene Glycol Monobutyl Ether:

OSHA PEL (General Industry) 8 hour TWA: None established.

MAK (DE) Limit value: 100 mg/m³.

Short term exposure limit value

(8 times, 5 minutes): 200 mg/m³.

Neither this preparation nor the components contained in it have been listed as carcinogenic by National Toxicology Program, IARC, or OSHA.

AS PART OF GOOD INDUSTRIAL AND PERSONAL HYGIENE AND SAFETY PROCEDURE, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes, and clothing.

SIGNS AND SYMPTOMS:

Acute Exposure:

Eye Contact: May cause mild to moderate transient irritation.

Skin Contact: May cause mild transient irritation and/or dermatitis.

Inhalation: Not an expected route of entry.

Ingestion: Irritating to mucous membranes. Large oral doses could produce narcosis.

Chronic Overexposure: Possible problems with kidneys, lungs, gastrointestinal, spleen, behavioral (sleep, motor, headache), lungs, gastrointestinal, liver, endocrine, blood, developmental.

Diethylene Glycol Monobutyl Ether did not interfere with reproduction. However, body weights of newborn animals were decreased.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Diseases of the kidney and liver.

FOR ENVIRONMENT:

As much as possible, keep from being washed into surface waters. See Heading 12.

4. FIRST AID MEASURES

Eye Contact: Flush with water for a minimum of 15 minutes while holding lid open. If irritation persists, seek medical attention.

Skin Contact: Wash affected area with soap and water. If irritation persists, seek medical attention.

Inhalation: Remove from exposure. If irritation persists, seek medical attention.

Ingestion: If the patient is conscious, dilute by drinking large quantities of water.

5. FIRE-FIGHTING MEASURES

This preparation is an extinguishing media.

There are NO extinguishing media which must not be used for safety reasons.

NO special protective equipment is needed for fire-fighters.

6. ACCIDENTAL RELEASE MEASURES

For personal protection: Prevent skin and eye contact, see Heading 8.

Clean up: Use an absorbent material such as diatomaceous earth, sawdust, etc., and sweep up, see Heading 13.

As much as possible, keep from being washed into surface waters. See Heading 12.

7. HANDLING AND STORAGE**7.1. Handling**

Care should be taken in handling all chemical substances and preparations.

See incompatibility information in Heading 10.

7.2. Storage

NO special conditions are needed for safe storage.

See incompatibility information in Heading 10.

Store in original container. Keep tightly closed until used.

As much as possible, keep from being washed into surface waters.

7.3. Specific use

The intended or recommended use of this preparation is as a FIRE EXTINGUISHING AGENT.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Exposure limit values

Limit Values for Exposure:

Diethylene Glycol Monobutyl Ether:

OSHA PEL (General Industry) 8 hour TWA: None established.

MAK (DE) Limit value: 100 mg/m³.

Short term exposure limit value

(8 times, 5 minutes): 200 mg/m³.

8.2. Exposure controls

8.2.1. Occupational exposure controls

8.2.1.1. Respiratory protection

None expected to be needed. Mechanical ventilation is recommended.

8.2.1.2. Hand protection

Use chemical resistant gloves when handling the preparation.

8.2.1.3. Eye protection

Chemical goggles are recommended.

8.2.1.4. Skin protection

Standard fire fighting safety equipment should provide all protection which is necessary.

8.2.2. Environmental exposure controls

As much as possible, keep from being washed into surface waters. See Heading 12.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. General information

Appearance: Pale straw yellow, clear liquid.

Odor: Mild, sweet odor.

9.2. Important health, safety, and environmental information

pH: 7.0-8.5.

Boiling point/boiling range: Approx. 90 °C (initial boiling).

Flash point: None to boiling (PMCC).

Flammability (solid/gas): Not flammable.

Explosive properties: Not explosive.

Oxidizing properties: Not an oxidizer.

Vapor Pressure: Not determined.

Relative Density (Water = 1): About 1.02.

Solubility:

– Water solubility: Completely soluble.

– Fat solubility: Not soluble.

Partition coefficient, n-octanol/water: Not determined.

Viscosity: 2-10 Cs.

Vapor density (Air = 1): Not determined, but <1.

Evaporation rate

(Butyl acetate = 1): Approx. 0.005.

9.3. Other information

Auto-ignition temperature: Does not ignite.

10. STABILITY AND REACTIVITY

10.1. Conditions to avoid

There are NO known conditions such as temperature, pressure, light, shock, etc., which may cause a dangerous reaction.

10.2. Materials to avoid

Reactive metals, electrically energized equipment, any material reactive with water, or strong oxidizers.

10.3. Hazardous decomposition products

Normally stable.

Hazardous polymerization will NOT occur.

Not known, however, carbon monoxide and oxides of nitrogen and sulfur may be produced during fire conditions.

Hydrogen sulfide may be produced during bacterial decomposition under anaerobic conditions.

11. TOXICOLOGICAL INFORMATION

Product: The toxicity of the product mixture has not been determined.

Components:

Diethylene glycol monobutyl ether:

Toxicity Data:	Oral (rat) LD ₅₀	5,660 mg/kg.	[Dow Chemical Co.].
	Oral (rat) LD ₅₀	9,623 mg/kg.	[EINECS ESIS].
	Dermal (rabbit) LD ₅₀	4,000 mg/kg.	[Dow Chemical Co.].
	Dermal (rabbit) LD ₅₀	2,764 mg/kg.	[EINECS ESIS].
Irritation Data:	Eye (rabbit)	20 mg/24 hrs.	Moderate. [EINECS ESIS].
	Eye (rabbit) Draize test	Highly irritating.	[EINECS ESIS].
	Skin (rabbit)	1000 mg/kg/day	Moderate with edema, fissuring, and leathery appearance. [EINECS ESIS].

Target organs: Kidney, blood, liver, lungs, gastrointestinal, spleen.

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity

Product:

Fish,	Rainbow trout:	LC ₅₀ (96 hrs)	308 mg/L.
	3 Spined Stickelback:	LC ₅₀ (96 hrs)	423 mg/L.
Daphnids,	Daphnia magna:	LC ₅₀ (48 hrs)	37.5 mg/L.

Components:

Diethylene glycol monobutyl ether:

Fish,	Lepomis macrochirus:	LC ₅₀ (96 hrs)	1,300 mg/L.
	Carrassius auratus:	LC ₅₀ (24 hrs)	2,700 mg/L.
Daphnids,	Daphnia magna:	EC ₅₀ (24 hrs)	3,184 mg/L.
Algae,	Scenedesmus subspicatus:	EC ₅₀ (96 hrs)	>100 mg/L.

12.2. Mobility

Diethylene glycol monobutyl ether:

Should not partition from a water column to organic matter contained in sediments and suspended solids.

12.3. Persistence and degradability

Product:

Aerobic degradation with activated sludge is 59% after 15 days

COD =	614,000 mg/L.
BOD ₅ =	94,200 mg/L.
BOD ₁₀ =	303,000 mg/L.
BOD ₁₅ =	365,000 mg/L.
BOD ₂₀ =	366,000 mg/L.

12.4. Bioaccumulative potential

Diethylene glycol monobutyl ether: Should not bioaccumulate. Estimated bioaccumulation factor (log BCF) = 0.46.

12.5. Other adverse effects

Ozone depletion potential:	None.
Photochemical ozone creation potential:	None.
Global warming potential:	None.

13. DISPOSAL CONSIDERATIONS

As much as possible, keep from being washed into surface waters. See Heading 12.

Dispose of in compliance with national, regional, and local provisions that may be in force.

14. TRANSPORT INFORMATION

Hazard Class or Division: Not hazardous.

For additional transport information, contact Ansul Incorporated.

As much as possible, keep from being washed into surface waters. See Heading 12.

15. REGULATORY INFORMATION

EU Classification: Irritant – Xi.
 R Phrases: 36 Irritating to eyes.
 S Phrases: 2 Keep out of the reach of children.
 24 Avoid contact with skin.
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Limit Values for Exposure:

Diethylene Glycol Monobutyl Ether:

OSHA PEL (General Industry) 8 hour TWA: None established.

MAK (DE) Limit value: 100 mg/m³.Short term exposure limit value
(8 times, 5 minutes):200 mg/m³.

EINECS Status: All components are included in EINECS inventories or are exempt from listing.

EPA TSCA Status: All components are included in TSCA inventories or are exempt from listing.

Canadian DSL (Domestic Substances List): All components are included in the DSL or are exempt from listing.

Environmental restrictions: None are known.

Restrictions on Marketing and Use: None are known.

Refer to any other national measures that may be relevant.

16. OTHER INFORMATION**(HMIS) HAZARDOUS MATERIAL IDENTIFICATION SYSTEM RATINGS:**

HEALTH:	<u>1</u>	4. Severe Hazard
FLAMMABILITY:	<u>0</u>	3. Serious Hazard
REACTIVITY:	<u>0</u>	2. Moderate Hazard
		1. Slight Hazard
		0. Minimal Hazard

(WHMIS) CANADIAN WORKPLACE HAZARDOUS MATERIAL IDENTIFICATION SYSTEM RATINGS:

This product is rated **D2B – Product may irritate eyes, skin or mucous membranes.**

Format is from directive 2001/58/EC.

EINECS data is from <http://ecb.jrc.it/existing-chemicals/>

Data used to compile the data sheet is from Ansul Material Safety Data Sheet, October, 2005.

17. DISCLAIMER

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT, BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. ANSUL SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT.

MSDS available at <http://www.ansul.com>