
1. IDENTIFICATION

Product Name	High Expansion® 1-1/2% High Expansion Foam Concentrate
Recommended use of the chemical and restrictions on use	
Identified uses	Firefighting Foam Concentrate
Restrictions on Use	See Section 15
Company Identification	National Foam 350 East Union Street West Chester, PA 19382
Customer Information Number	(610) 363-1400
Emergency Telephone Number	Infotrac at (800) 535-5053
Issue Date	December 8, 2016
Supersedes Date	February 1, 2016
<i>Safety Data Sheet prepared in accordance with OSHA's Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)</i>	

2. HAZARD IDENTIFICATION

Hazard Classification

Eye Damage/Irritation - Category 1

Skin Corrosion/Irritation - Category 2

Acute Hazards to the Aquatic Environment - Category 2 (OSHA non-mandatory)

Label Elements

Hazard Symbols



Signal Word: Danger

Hazard Statements

Causes serious eye damage.

Causes skin irritation.

Toxic to aquatic life.

Precautionary Statements**Prevention**

Wash hands thoroughly after handling.

Wear protective gloves, eye protection and face protection.

Avoid release to the environment.

Response

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.

If on skin: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage

None

Disposal

Dispose of contents/container in accordance with local regulation.

2. HAZARD IDENTIFICATION

Other Hazards

None identified.

Specific Concentration Limits

The values listed below represent the percentages of ingredients of unknown toxicity.

Acute oral toxicity	20 - 30%
Acute dermal toxicity	20 - 30%
Acute inhalation toxicity	20 - 30%
Acute aquatic toxicity	50 - 60%

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CAS Number	Concentration
Water	7732-18-5	35 - 45%
2-Butoxyethanol	111-76-2	25 - 35%
Alkyl Ether Sulfate	Proprietary	15 - 25%
Alcohol	Proprietary	1 - 10%
Synthetic detergent	Proprietary	<1%

4. FIRST-AID MEASURES

Description of necessary first-aid measures**Eyes**

Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

Skin

Wash skin thoroughly with soap and water. Obtain medical attention if irritation persists.

Ingestion

Dilute by drinking large quantities of water and obtain medical attention.

Inhalation

Move victim to fresh air. Obtain medical attention immediately for any breathing difficulty.

Most important symptoms/effects, acute and delayed

Aside from the information found under Description of necessary first aid measures (above) and Indication of immediate medical attention and special treatment needed, no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed**Notes to Physicians**

Treat symptomatically.

5. FIRE - FIGHTING MEASURES

Suitable Extinguishing Media

This preparation is used as an extinguishing agent and therefore is not a problem when trying to control a fire. Use extinguishing agent appropriate to other materials involved.

5. FIRE - FIGHTING MEASURES

Specific hazards arising from the chemical

This product will foam when mixed with water.

Special Protective Actions for Fire-Fighters

Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear appropriate protective clothing. Prevent skin and eye contact.

Environmental Precautions

Prevent large quantities of the material from entering drains or watercourses.

Methods and materials for containment and cleaning up

Contain and absorb using appropriate inert material and transfer into suitable containers for recovery or disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Wear appropriate protective clothing. Prevent skin and eye contact.

Conditions for safe storage

Store in original containers between 35°F and 120°F (2°C and 49°C). Storage area should be: cool - dry - well ventilated - under cover - out of direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

2-Butoxyethanol

ACGIH: TLV 20 ppm

OSHA Z-1 PEL: 50 ppm (240 mg/m³), skin designation

Appropriate engineering controls

Use with adequate ventilation. If this product is used in a pressurized system, there should be local procedures for the selection, training, inspection and maintenance of this equipment. When used in large volumes, use local exhaust ventilation.

Individual protection measures**Respiratory Protection**

Wear respiratory protection if there is a risk of exposure. A NIOSH approved full face respirator may be worn. The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Skin Protection

Gloves

Eye/Face Protection

Chemical goggles or safety glasses with side shields.

Body Protection

Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

	Physical State	Liquid
	Color	Pale yellow
Odor		Slight
Odor Threshold		No data available
pH		6.9
Specific Gravity		0.99
Boiling Range/Point (°C/F)		No data available
Melting Point (°C/F)		No data available
Flash Point (°C/F)		>93.3/200
Vapor Pressure		No data available
Evaporation Rate (BuAc=1)		No data available
Solubility in Water		Soluble
Vapor Density (Air = 1)		Not applicable
VOC (%)		No data available
Partition coefficient (n-octanol/water)		No data available
Viscosity		No data available
Auto-ignition Temperature		Not applicable
Decomposition Temperature		No data available
Upper explosive limit		Not applicable
Lower explosive limit		Not applicable
Flammability (solid, gas)		Not applicable

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical Stability

Stable under normal conditions.

Possibility of hazardous reactions

Hazardous polymerization will not occur.

Conditions to Avoid

Contact with incompatible materials

Incompatible Materials

Water reactive materials – burning metals – electrically energized equipment

Hazardous Decomposition Products

Oxides of carbon - aldehydes - ketones - organic acids - sulfur oxides - sodium oxides - nitrogen oxides

11. TOXICOLOGICAL INFORMATION

Acute Toxicity2-Butoxyethanol

Oral LD50 rat 615 - 880 mg/kg

Dermal LD50 guinea pig >2000 mg/kg

Specific Target Organ Toxicity (STOT) – single exposure

No relevant studies identified.

Specific Target Organ Toxicity (STOT) – repeat exposure

No relevant studies identified.

Serious Eye damage/IrritationAlkyl ether sulfate: Causes serious eye damage. (70% solution)2-butoxyethanol: Irritating to eyes in rabbit studies.Synthetic detergent: Severely irritating to eyes in rabbit study.**Skin Corrosion/Irritation**Alkyl ether sulfate: Causes skin irritation.2-butoxyethanol: Irritating to skin in rabbit studies.Synthetic detergent: Moderate to severe irritant in rabbit study.**Respiratory or Skin Sensitization**

No relevant studies identified.

Carcinogenicity

Not considered carcinogenic by NTP, IARC, and OSHA.

Germ Cell Mutagenicity

No relevant studies identified.

Reproductive Toxicity

No relevant studies identified.

Aspiration Hazard

Not an aspiration hazard.

12. ECOLOGICAL INFORMATION

EcotoxicityAlcohol

LC50 fathead minnow 1.01 mg/l 96hr (based on similar substance)

EC50 daphnia magna 0.7665 mg/l 48 hr (based on similar substance)

EC50 green algae 0.66 mg/l 75hr (based on similar substance)

Synthetic Detergent

LC50 zebra fish 10-100 mg/l 96hr

EC50 daphnia magna 4.4 mg/l 48 hr

EC50 green algae 0.11 mg/l 96hr

Mobility in soil

No relevant studies identified.

12. ECOLOGICAL INFORMATION

Persistence/Degradability

Concentrate:

BOD₅: 722,000 mg/l

COD: 1,320,000 mg/l

Bioaccumulative Potential

No relevant studies identified.

Other adverse effects

No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

This product, as sold, is not a RCRA-listed waste or hazardous waste as characterized by 40 CFR 261. However, state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Therefore, applicable local and state regulatory agencies should be contacted regarding disposal of waste foam concentrate or foam/foam solution.

Concentrate

Prevent foam concentrate from entering ground water, surface water or storm drains. Small quantities of foam concentrate may be collected on absorbents which can then be disposed of. Disposal should be made in accordance with local, state and federal regulations.

Foam/Foam Solution

Prevent foam/foam solution from entering ground water, surface water or storm drains. Small quantities of foam solution may be collected on absorbents which can then be disposed of. Disposal should be made in accordance with local, state and federal regulations.

NOTE: Please consult National Foam for additional information regarding the disposal of foam concentrates and foam solutions.

14. TRANSPORT INFORMATION

Shipping Information**Shipping Description****National Motor Freight Code**

Fire Extinguisher Charges or Compounds N.O.I., Class 70

69160 Sub 0

This information is not intended to convey all transportation classifications that may apply to this product. Classifications may vary by container volume and by regional regulations. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules when transporting this material.

15. REGULATORY INFORMATION

United States TSCA Inventory

All components of this product are in compliance or are exempt from inventory listing requirements of the US Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

Canada DSL Inventory

All ingredients in this product have been verified for listing on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL).

15. REGULATORY INFORMATION

SARA Title III Sect. 311/312 Categorization
Immediate (Acute) Health Hazard

SARA Title III Sect. 313

This product contains the following chemicals that are listed in Section 313 at or above de minimis concentrations: 2- Butoxyethanol

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
2- Butoxyethanol

16. OTHER INFORMATION

NFPA Ratings

NFPA Code for Health - 1
NFPA Code for Flammability - 0
NFPA Code for Reactivity - 0
NFPA Code for Special Hazards - None

Legend

ACGIH: American Conference of Governmental Industrial Hygienists
BOD₅: Biochemical Oxygen Demand (5 day)
CAS#: Chemical Abstracts Service Number
COD: Chemical Oxygen Demand
EC50: Effect Concentration 50%
IARC: International Agency for Research on Cancer
LC50: Lethal Concentration 50%
LD50: Lethal Dose 50%
N/A: Denotes no applicable information found or available
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
RQ: Reportable Quantity
STEL: Short Term Exposure Limit
N/A: Denotes no applicable information found or available
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
RQ: Reportable Quantity
STEL: Short Term Exposure Limit
TLV: Threshold Limit Value
TSCA: Toxic Substance Control Act

Revision Date: December 8, 2016
Replaces: February 1, 2016
Changes made: Update the Section 13.

Information Source and References

This SDS is prepared by Hazard Communication Specialists based on information provided by internal company references.

Prepared By: EnviroNet LLC.

High Expansion is a trademark of Angus International.

16. OTHER INFORMATION

The information and recommendations presented in this SDS are based on sources believed to be accurate. National Foam assumes no liability for the accuracy or completeness of this information. It is the user's responsibility to determine the suitability of the material for their particular purposes. In particular, we make NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, with respect to such information, and we assume no liability resulting from its use. Users should ensure that any use or disposal of the material is in accordance with applicable Federal, State, and local laws and regulations.
