1. IDENTIFICATION

Product Name: HI-EX 2%
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:
July 17, 2019

Supersedes Date:
October 22, 2018

Safety Data Sheet prepared in accordance with OSHA’s Hazard Communication Standard (29 CFR 1910.1200, the Canadian Hazardous Products Regulations (HPR) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

2. HAZARD IDENTIFICATION

Hazard Classification:
- Eye Damage/Irritation - Category 1
- Skin Corrosion/Irritation - Category 2
- Specific Target Organ Toxicity – Repeat Exposure - Category 2
- Flammable Liquids - Category 4
- 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.
- May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.
- Combustible liquid.
- Toxic to aquatic life.

Precautionary Statements:
Prevention:
- Wash hands thoroughly after handling.
- Wear protective gloves, eye protection and face protection.
- Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
- Keep away from flames and hot surfaces. No smoking.
- Avoid release to the environment.
2. HAZARD IDENTIFICATION

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.
In case of fire: Use extinguishing measures that are appropriate to local circumstances.
Get medical advice/attention if you feel unwell.

Storage
Store in a well-ventilated place.
Keep cool.

Disposal
Dispose of contents/container in accordance with local regulations.

Other Hazards
None identified.

Specific Concentration Limits
The values listed below represent the percentages of ingredients of unknown toxicity.
Acute oral toxicity 15 - 25%
Acute dermal toxicity 20 - 30%
Acute inhalation toxicity 45 - 55
Acute aquatic toxicity 40 - 50%

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component | CAS Number | Concentration*
---|---|---
Propylene glycol n-Propyl Ether | 1569-01-3 | 10 - 30%
Sodium Alkyl Ether Sulfate | 68585-34-2 | 10 - 30%
Sodium decyl sulfate | 142-87-0 | 5 - 10%
Alcohols | 67762-41-8 | 3 - 7%
D-Glucopyranose, oligomers, decyl octyl glycosides | 68515-73-1 | 1 - 5%
D-Glucopyranose, oligomeric, C10-16-alkyl glycosides | 110615-47-9 | 1 - 5%
Tetrasodium ethylenediaminetetraacetate tetrahydrate | 13235-36-4 | 1 - 5%

*Exact concentration withheld as trade secret.

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.
4. FIRST- AID MEASURES

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.

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. Eliminate all sources of ignition. Use non-sparking tools for flammable materials. 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). Store away from sources of heat or ignition. Storage area should be: cool - dry - well ventilated - away from incompatible materials - out of direct sunlight - away from sources of ignition (heat, sparks, flames, and pilot lights)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Propylene glycol n-Propyl Ether
Manufacturers Recommended Limit: 50ppm TWA, 75ppm STEL

Sodium Alkyl Ether Sulfate
None established

Sodium decyl sulfate
None established

Alcohols
None established

D-Glucopyranose, oligomers, decyl octyl glycosides
None established

D-Glucopyranose, oligomeric, C10-16-alkyl glycosides
None established

Tetrasodium ethylenediaminetetraacetate tetrahydrate
None established

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 to high vapor concentrations, aerosols or if applied to hot surfaces. 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.

Skin Protection
Gloves

Eye/Face Protection
Chemical goggles or safety glasses with side shields.

Body Protection
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Physical State</th>
<th>Color</th>
<th>Odor</th>
<th>Odor Threshold</th>
<th>pH</th>
<th>Specific Gravity</th>
<th>Boiling Range/Point (°C/F)</th>
<th>Melting Point (°C/F)</th>
<th>Flash Point (°C/F)</th>
<th>Vapor Pressure</th>
<th>Evaporation Rate (BuAc=1)</th>
<th>Solubility in Water</th>
<th>Vapor Density (Air = 1)</th>
<th>VOC (%)</th>
<th>Partition coefficient (n-octanol/water)</th>
<th>Viscosity</th>
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</thead>
<tbody>
<tr>
<td>Liquid</td>
<td>Colorless</td>
<td>Slight</td>
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<td>7.2</td>
<td>1.02</td>
<td>No data available</td>
<td>No data available</td>
<td>65.5/150</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>Soluble</td>
<td>Not applicable</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosive limit</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Lower explosive limit</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

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 – sulfur oxides – sodium oxides – alkyl mercaptans - sulfides

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

- Propylene glycol n-Propyl Ether
- Oral LD50 rat 2800 - 3000 mg/kg
- Dermal LD50 rabbit 3550 mg/kg
- Tetrasodium ethylenediaminetetraacetate tetrahydrate
- Oral LD50 rat, female 1780 mg/kg
- Dermal LD50 rabbit >5000 mg/kg

Specific Target Organ Toxicity (STOT) – single exposure
No relevant studies identified.

Specific Target Organ Toxicity (STOT) – repeat exposure

- Tetrasodium ethylenediaminetetraacetate tetrahydrate: In animals, effects have been reported on the respiratory tract (Similar chemical)

Serious Eye damage/Irritation

- Sodium decyl sulfate: Risk of serious eye damage (>=20%) Causes serious eye irritation (>=10 - <20%).
- Tetrasodium ethylenediaminetetraacetate tetrahydrate: Irritating to eyes in rabbit study.
- Sodium Alkyl ether sulfate: Causes serious eye damage. (70% solution)
- Propylene glycol n-Propyl Ether: Causes serious eye irritation.
- D-Glucopyranose, oligomers, decyl octyl glycosides: Risk of serious damage to eyes.
- D-Glucopyranose, oligomeric, C10-16-alkyl glycosides: Risk of serious damage to eyes.
11. TOXICOLOGICAL INFORMATION

Skin Corrosion/Irritation
Sodium Alkyl ether sulfate: Causes skin irritation.
Sodium decyl sulfate: Causes skin irritation.

Respiratory or Skin Sensitization
Available data indicates this product is not expected to cause skin sensitization.

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

Ecotoxicity
Alcohol
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)

Mobility in soil
No relevant studies identified.

Persistence/Degradability
Concentrate:
BOD₅: 535,000 mg/l
COD: 1,370,000 mg/l
2% Solution
BOD₅: 9050 mg/l
COD: 24, 200 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.
13. DISPOSAL CONSIDERATIONS

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: Fire Extinguisher Charges or Compounds N.O.I., Class 70
National Motor Freight Code: 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).

SARA Title III Sect. 311/312 Categorization
Serious eye damage – Skin Irritation – Specific Target Organ Toxicity (Repeated Exposure) - Flammable

SARA Title III Sect. 313
This product does not contain any chemicals that are listed in Section 313 at or above de minimis concentrations.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
None

California Proposition 65
WARNING: This product can expose you to chemicals including formaldehyde, 1,4 dioxane and ethylene oxide, which are known to the State of California to cause cancer, and ethylene oxide and methanol, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
16. OTHER INFORMATION

NFPA Ratings
NFPA Code for Health - 3
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: July 17, 2019
Replaces: October 22, 2018
Changes made: Update to Section 15.

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

Prepared By: EnviroNet LLC.

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