



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

| | |
|---------------------|---|
| Product Name | Aerosol Nu-Brite (4291-18) |
| CAS # | Mixture |
| Product use | Cleaner/Degreaser |
| Manufacturer | Nu-Calgon 2008 Altom Court St. Louis, MO 63146 US Phone: 314-469-7000 / 800-554-5499 Emergency Phone: 1-800-424-9300 (CHEMTREC) |

2. Hazards Identification

| | |
|--|---|
| Emergency overview | DANGER -- CORROSIVE Contents under pressure. Containers may explode when heated. |
| Potential short term health effects | |
| Routes of exposure | Eye, Skin contact, Skin absorption, Inhalation, Ingestion. |
| Eyes | May cause chemical burns. May cause blindness. |
| Skin | May cause severe irritation or chemical burns. May be absorbed through the skin. |
| Inhalation | May cause respiratory tract irritation or chemical burns. |
| Ingestion | Not a normal route of exposure. Harmful if swallowed. May cause chemical burns to mouth, throat and stomach. |
| Target organs | Eyes. Respiratory system. Skin. Gastrointestinal tract. Based on published data, if contact is repeated and prolonged, monoethanolamine may cause liver and kidney damage. These effects have not been observed in humans. |
| Chronic effects | This product may be harmful if it is absorbed through the skin. Prolonged or repeated exposure can cause drying, defatting and dermatitis. |
| Signs and symptoms | The product causes burns of eyes, skin and mucous membranes. |
| OSHA Regulatory Status | This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. |
| Potential environmental effects | Components of this product have been identified as having potential environmental concerns. |

3. Composition / Information on Ingredients

| Ingredient(s) | CAS # | Percent |
|----------------------|--------------|----------------|
| Sodium hydroxide | 1310-73-2 | 7 - 13 |
| Butane | 106-97-8 | 1 - 5 |
| Monoethanolamine | 141-43-5 | 1 - 5 |
| Propane | 74-98-6 | 1 - 5 |

4. First Aid Measures

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| First aid procedures | |
| Eye contact | Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately. |
| Skin contact | Immediately flush with cool water for 15 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical attention if irritation persists. |
| Inhalation | If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately. |
| Ingestion | Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention. |
| Notes to physician | Treat patient symptomatically. |

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| General advice | Do not puncture or incinerate container. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children. |
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5. Fire Fighting Measures

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| Flammable properties | Non-flammable aerosol by flame projection test. |
| Extinguishing media | |
| Suitable extinguishing media | Fog. Water spray. Dry chemical. Carbon dioxide. |
| Unsuitable extinguishing media | Not available |
| Protection of firefighters | |
| Specific hazards arising from the chemical | Contents under pressure. Pressurized container may explode when exposed to heat or flame. Cool containers with flooding quantities of water until well after fire is out. |
| Protective equipment for firefighters | Firefighters should wear full protective clothing including self contained breathing apparatus. |
| Hazardous combustion products | May include and are not limited to: Oxides of carbon. Oxides of nitrogen. |
| Explosion data | |
| Sensitivity to mechanical impact | Not available |
| Sensitivity to static discharge | Not available |

6. Accidental Release Measures

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| Personal precautions | Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. |
| Environmental precautions | Prevent further leakage or spillage if safe to do so. Do not contaminate water. |
| Methods for containment | Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas. |
| Methods for cleaning up | Before attempting clean up, refer to hazard data given above. Remove sources of ignition. Although the chance of a significant spill or leak is unlikely in aerosol containers, in the event of such an occurrence, absorb spilled material with a non-flammable absorbent such as sand or vermiculite. |

7. Handling and Storage

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| Handling | DANGER -- CORROSIVE Use good industrial hygiene practices in handling this material. Use only with adequate ventilation. Do not get in eyes, on skin or on clothing. Keep container tightly closed. Wash thoroughly after handling. |
| Storage | Keep out of reach of children. Do not store at temperatures above 49 °C (120.2°F). Keep away from heat, open flames or other sources of ignition. |

8. Exposure Controls / Personal Protection

| Exposure limits | |
|---------------------------------------|--|
| Ingredient(s) | Exposure Limits |
| Butane | ACGIH-TLV TWA: 1000 ppm OSHA-PEL Not established |
| Monoethanolamine | ACGIH-TLV TWA: 3 ppm STEL: 6 ppm OSHA-PEL TWA: 3 ppm |
| Propane | ACGIH-TLV TWA: 1000 ppm OSHA-PEL TWA: 1000 ppm |
| Sodium hydroxide | ACGIH-TLV Ceiling: 2 mg/m3 OSHA-PEL TWA: 2 mg/m3 |
| Engineering controls | General ventilation normally adequate. |
| Personal protective equipment | |
| Eye / face protection | Chemical splash goggles. |
| Hand protection | Rubber gloves. Confirm with a reputable supplier first. |
| Skin and body protection | As required by employer code. |
| Respiratory protection | Avoid breathing mists or vapors. Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. |
| General hygiene considerations | Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands and face before breaks and immediately after handling the product. |

9. Physical and Chemical Properties

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|---|--------------------------|
| Appearance | Compressed liquefied gas |
| Color | Not available |
| Form | Spray |
| Odor | Not available |
| Odor threshold | Not available |
| Physical state | Gas |
| pH | 13.0 ± 0.5 |
| Melting point | Not available |
| Freezing point | Not available |
| Boiling point | Not available |
| Pour point | Not available |
| Evaporation rate | < 1 (Ether = 1) |
| Flash point | Not available |
| Auto-ignition temperature | Not available |
| Flammability limits in air, lower, % by volume | Not available |
| Flammability limits in air, upper, % by volume | Not available |
| Vapor pressure | 481 KPa |
| Vapor density | Not available |

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|----------------------------------|---------------|
| Specific gravity | Not available |
| Octanol/water coefficient | Not available |
| Solubility (H2O) | Not available |
| VOC (Weight %) | Not available |
| Viscosity | Not available |
| Percent volatile | Not available |

10. Stability and Reactivity

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| Reactivity | This product may react with oxidizing agents. |
| Possibility of hazardous reactions | Hazardous polymerization does not occur. |
| Chemical stability | Stable under recommended storage conditions. |
| Conditions to avoid | Reacts with soft metals producing flammable hydrogen gas. Aerosol containers are unstable at temperatures above 49°C (120.2°F). |
| Incompatible materials | Acids. Reducing agents. Oxidizers. |
| Hazardous decomposition products | May include and are not limited to: Oxides of carbon. Oxides of nitrogen. |

11. Toxicological Information

Component analysis - LC50

| Ingredient(s) | LC50 |
|----------------------|------------------|
| Butane | Not available |
| Monoethanolamine | 1210 mg/m3 mouse |
| Propane | Not available |
| Sodium hydroxide | Not available |

Component analysis - Oral LD50

| Ingredient(s) | LD50 |
|----------------------|---------------------------------|
| Butane | Not available |
| Monoethanolamine | 1720 mg/kg rat; 700 mg/kg mouse |
| Propane | Not available |
| Sodium hydroxide | Not available |

Effects of acute exposure

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|-------------------|--|
| Eye | May cause chemical burns. May cause blindness. |
| Skin | May cause severe irritation or chemical burns. May be absorbed through the skin. |
| Inhalation | May cause respiratory tract irritation or chemical burns. |
| Ingestion | Not a normal route of exposure. Harmful if swallowed. May cause chemical burns to mouth, throat and stomach. |

Sensitization

Non-hazardous by WHMIS/OSHA criteria.

Chronic effects

Based on published data, if contact is repeated and prolonged, monoethanolamine may cause liver and kidney damage. These effects have not been observed in humans.

Carcinogenicity

Non-hazardous by WHMIS/OSHA criteria.

Mutagenicity

Non-hazardous by WHMIS/OSHA criteria.

Reproductive effects

Non-hazardous by WHMIS/OSHA criteria.

Teratogenicity

Non-hazardous by WHMIS/OSHA criteria.

Name of Toxicologically Synergistic Products

Not available

12. Ecological Information

| | | |
|--|---|--|
| Ecotoxicity | Components of this product have been identified as having potential environmental concerns. | |
| Ecotoxicity - Freshwater Algae - Acute Toxicity Data | | |
| Monoethanolamine | 141-43-5 | 72 Hr EC50 Desmodesmus subspicatus: 15 mg/L |
| Ecotoxicity - Freshwater Fish - Acute Toxicity Data | | |
| Monoethanolamine | 141-43-5 | 96 Hr LC50 Pimephales promelas: 227 mg/L [flow-through]; 96 Hr LC50 Brachydanio rerio: 3684 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 300-1000 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 114-196 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: >200 mg/L [flow-through] |
| Sodium hydroxide | 1310-73-2 | 96 Hr LC50 Oncorhynchus mykiss: 45.4 mg/L [static] |
| Ecotoxicity - Water Flea - Acute Toxicity Data | | |
| Monoethanolamine | 141-43-5 | 48 Hr EC50 Daphnia magna: 65 mg/L |
| Persistence / degradability | Not available | |
| Bioaccumulation / accumulation | Not available | |
| Mobility in environmental media | Not available | |
| Environmental effects | Not available | |
| Aquatic toxicity | Not available | |
| Partition coefficient | Not available | |
| Chemical fate information | Not available | |
| Other adverse effects | Not available | |

13. Disposal Considerations

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| Disposal instructions | Dispose in accordance with all applicable regulations. |
| Waste from residues / unused products | Not available |
| Contaminated packaging | Not available |

14. Transport Information

U.S. Department of Transportation (DOT)

Consumer Commodity ORM-D

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

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|--------------------------------|---|
| Proper shipping name | AEROSOLS, non-flammable, containing substances in Class 8, packing group II |
| Hazard class | 2.2 (8) |
| UN number | 1950 |
| Additional information: | |
| Special provisions | 80 |
| Packaging exceptions | <0.125L - Consumer Commodity |



15. Regulatory Information

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|-------------------------------------|---|
| Canadian federal regulations | This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations. |
|-------------------------------------|---|

Canada - CEPA - High Priority Chemicals as Identified by DSL Categorization

| | | |
|--------|----------|--------------------------------------|
| Butane | 106-97-8 | Batch 4, published November 17, 2007 |
|--------|----------|--------------------------------------|

Canada - WHMIS - Ingredient Disclosure List

| | | |
|------------------|-----------|-----|
| Butane | 106-97-8 | 1 % |
| Monoethanolamine | 141-43-5 | 1 % |
| Sodium hydroxide | 1310-73-2 | 1 % |

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| WHMIS status | Controlled |
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| WHMIS classification | Class A - Compressed Gas, Class E - Corrosive Material |
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WHMIS labeling



Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

US Federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

Sodium hydroxide 1310-73-2 1000 Lb final RQ; 454 kg final RQ

U.S. - CWA (Clean Water Act) - Hazardous Substances

Sodium hydroxide 1310-73-2 Present

CERCLA (Superfund) reportable quantity

Sodium hydroxide: 1000.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Clean Air Act (CAA) Not available

Clean Water Act (CWA) Hazardous substance

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances

Butane 106-97-8 Present
Monoethanolamine 141-43-5 Present
Sodium hydroxide 1310-73-2 Present

U.S. - Illinois - Toxic Air Contaminants

Monoethanolamine 141-43-5 Present

U.S. - Louisiana - Reportable Quantity List for Pollutants

Sodium hydroxide 1310-73-2 1000 Lb final RQ; 454 kg final RQ

U.S. - Massachusetts - Right To Know List

Butane 106-97-8 Present
Monoethanolamine 141-43-5 Present
Propane 74-98-6 Present
Sodium hydroxide 1310-73-2 Present

U.S. - Minnesota - Hazardous Substance List

Butane 106-97-8 Present
Monoethanolamine 141-43-5 Present
Propane 74-98-6 Simple asphyxiant
Sodium hydroxide 1310-73-2 Present

U.S. - New Jersey - Right to Know Hazardous Substance List

Butane 106-97-8 sn 0273
Monoethanolamine 141-43-5 sn 0835
Propane 74-98-6 sn 1594
Sodium hydroxide 1310-73-2 sn 1706

U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

Sodium hydroxide 1310-73-2 1000 Lb RQ (air); 100 lb RQ (land/water)

U.S. - Pennsylvania - RTK (Right to Know) List

Butane 106-97-8 Present
Monoethanolamine 141-43-5 Present
Propane 74-98-6 Present
Sodium hydroxide 1310-73-2 Environmental hazard

U.S. - Rhode Island - Hazardous Substance List

Butane 106-97-8 Toxic; Flammable
Monoethanolamine 141-43-5 Toxic; Flammable
Propane 74-98-6 Toxic; Flammable
Sodium hydroxide 1310-73-2 Toxic (caustic); Flammable (caustic)

Inventory name**Country(s) or region**

Canada

Canada

United States & Puerto Rico

Inventory name

Domestic Substances List (DSL)

Non-Domestic Substances List (NDSL)

Toxic Substances Control Act (TSCA) Inventory

On inventory (yes/no)*

Yes

No

Yes

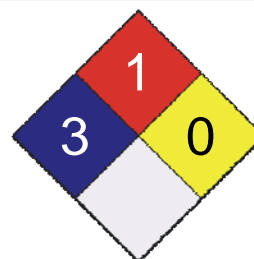
A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

| LEGEND HMIS/NFPA | |
|---------------------|---|
| Severe | 4 |
| Serious | 3 |
| Moderate | 2 |
| Slight | 1 |
| Minimal | 0 |

Disclaimer

| | |
|---------------------|-----|
| Health | / 3 |
| Flammability | 1 |
| Physical Hazard | 0 |
| Personal Protection | X |



Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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Prepared by

Nu-Calgon Technical Service (314) 469-7000

Other information

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.