SAFETY DATA SHEET

1. Product and Company Identification

Product identifier **CalClean Aerosol (4081-75)**

Other means of identification Not available

Recommended use Coil Cleaner **Recommended**

restrictions None known.

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

Physical hazards	Gases under pressure	Liquefied gas
	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Contains gas under pressure; may explode if heated.
May be corrosive to metals.
Causes severe skin burns and eye damage.

Precautionary statement

Prevention Keep only in original container.
Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe mist or vapor.

Response If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor.
Specific treatment (see this label). If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Absorb spillage to prevent material damage.

Storage Protect from sunlight. Store in a well-ventilated place.
Store in corrosive resistant container with a resistant inner liner.
Store locked up.

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

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Not applicable.

3. Composition/Information on Ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
2-Cyclohexene-1-octanoic acid, 5(or 6)-carboxy-4-hexyl-, potassium salt		68127-33-3	1 - 5
Alcohols, C9-11, ethoxylated		68439-46-3	1 - 5
Butane		106-97-8	1 - 5

Chemical name	Common name and synonyms	CAS number	%
Propane		74-98-6	1 - 5
Sodium metasilicate		6834-92-0	1 - 5
Sodium tripolyphosphate		7758-29-4	1 - 5

Composition comments US GHS: The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

4. First Aid Measures

Inhalation If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor/.

Skin contact If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

Eye contact 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/doctor.

Ingestion If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

Most important symptoms/effects, acute and delayed Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance. Do not puncture or incinerate container. Do not store at temperatures above 49°C. Wear rubber gloves and chemical splash goggles.

5. Fire Fighting Measures

Suitable extinguishing media Dry chemical. Carbon dioxide.

Unsuitable extinguishing media None known.

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. Firefighters should wear a self-contained breathing apparatus.

Special protective equipment and precautions for firefighters Firefighters should wear full protective clothing including self contained breathing apparatus.

Fire-fighting equipment/instructions In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Containers should be cooled with water to prevent vapor pressure build up. Cool containers with flooding quantities of water until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods Cool containers exposed to flames with water until well after the fire is out.

Hazardous combustion products May include and are not limited to: Oxides of carbon.

Explosion data

Sensitivity to mechanical impact Not available.

Sensitivity to static discharge Not available.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep out of low areas. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Dike far ahead of spill for later disposal. Absorb spillage to prevent material damage. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for safe handling

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Ground and bond containers when transferring material. Do not re-use empty containers. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash thoroughly after handling. Use good industrial hygiene practices in handling this material. Keep container tightly closed.

Conditions for safe storage, including any incompatibilities

Store locked up. Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Protect from sunlight. Avoid exposure to long periods of sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep out of reach of children. Do not store at temperatures above 49 °C (120.2°F).

8. Exposure Controls/Personal Protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Propane (CAS 74-98-6)	PEL	1800 mg/m3 1000 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Butane (CAS 106-97-8)	STEL	1000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Butane (CAS 106-97-8)	TWA	1900 mg/m3 800 ppm
Propane (CAS 74-98-6)	TWA	1800 mg/m3 1000 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear chemical goggles.

Skin protection

Hand protection

Rubber gloves. Confirm with a reputable supplier first.

Other

Wear appropriate chemical resistant clothing. As required by employer code.

Respiratory protection

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

Thermal hazards

Not applicable.

General hygiene considerations

When using do not smoke. Wash hands and face before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Appearance

Clear

Physical state

Gas.

Form	Aerosol
Color	Colorless
Odor	Odorless
Odor threshold	Not available.
pH	13 - 14
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Pour point	Not available.
Specific gravity	1.050 - 1.150 (liquid)
Partition coefficient (n-octanol/water)	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	48 - 58 psig @ 70°F
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Flame projection	0
Flammability (flash back)	No
Heat of combustion	4.33 kJ/g
VOC (Weight %)	5.0% (US federal), 5.0% (CARB/OTC/LADCO)

10. Stability and Reactivity

Reactivity	Reacts violently with acids.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	This product may react with oxidizing agents. Aerosol containers are unstable at temperatures above 49°C (120.2°F).
Incompatible materials	Oxidizing agents. Acids.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon.

11. Toxicological Information

Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Information on likely routes of exposure	
Ingestion	Causes digestive tract burns.
Inhalation	Prolonged inhalation may be harmful. May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Causes burns.

Components	**Species**	**Test Results**
2-Cyclohexene-1-octanoic acid, 5(or 6)-carboxy-4-hexyl-, potassium salt (CAS 68127-33-3)		
Acute		
Inhalation		
LC50	Not available	
Oral		
LD50	Not available	
Alcohols, C9-11, ethoxylated (CAS 68439-46-3)		
Acute		
Dermal		
LD50	Rabbit	2000 mg/kg
	Rat	2000 mg/kg
Inhalation		
LC50	Rat	5 mg/l/4h
Oral		
LD50	Rat	1200 mg/kg
Butane (CAS 106-97-8)		
Acute		
Inhalation		
LC50	Mouse	680 mg/l, 2 Hours
	Rat	276000 ppm, 4 Hours
		658 mg/l/4h
Oral		
LD50	Not available	
Propane (CAS 74-98-6)		
Acute		
Inhalation		
LC50	Rat	> 1442.8 mg/l, 15 Minutes
Oral		
LD50	Not available	
Sodium metasilicate (CAS 6834-92-0)		
Acute		
Dermal		
LD50	Not available	
Inhalation		
LC50	Not available	
Oral		
LD50	Mouse	2400 mg/kg
	Rat	1153 mg/kg
Sodium tripolyphosphate (CAS 7758-29-4)		
Acute		
Dermal		
LD50	Rabbit	7940 mg/kg
Inhalation		
LC50	Not available	
Oral		
LD50	Rat	3100 mg/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Exposure minutes Not available.

Erythema value Not available.

Oedema value Not available.

Serious eye damage/eye irritation	Causes serious eye damage.
Corneal opacity value	Not available.
Iris lesion value	Not available.
Conjunctival reddening value	Not available.
Conjunctival oedema value	Not available.
Recover days	Not available.
Respiratory or skin sensitization	
Respiratory sensitization	Not available.
Skin sensitization	Prolonged or repeated exposure to dilutions can cause drying, defatting and dermatitis.
Germ cell mutagenicity	Non-hazardous by WHMIS/OSHA criteria.
Mutagenicity	Non-hazardous by WHMIS/OSHA criteria.
Carcinogenicity	Non-hazardous by WHMIS/OSHA criteria.
Reproductive toxicity	Non-hazardous by WHMIS/OSHA criteria.
Teratogenicity	Non-hazardous by WHMIS/OSHA criteria.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not likely, due to the form of the product.
Chronic effects	Prolonged inhalation may be harmful.
Further information	Not available.
Name of Toxicologically Synergistic Products	Not available.

12. Ecological Information

Ecotoxicity See below

Components		Species	Test Results
Alcohols, C9-11, ethoxylated (CAS 68439-46-3)			
Fish		Rainbow Trout	70.7 mg/l, 96 Hours
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	2.9 - 8.5 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	6 - 12 mg/l, 96 hours
Sodium metasilicate (CAS 6834-92-0)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	0.28 - 0.57 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	1800 mg/l, 96 hours
Sodium tripolyphosphate (CAS 7758-29-4)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	238.35 - 321.01 mg/l, 48 hours

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Mobility in general	Not available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal Considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. This material and its container must be disposed of as hazardous waste. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.

Hazardous waste code	D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport Information

U.S. Department of Transportation (DOT)

Basic shipping requirements:

UN number	UN1950
Proper shipping name	Aerosols, corrosive, Packing Group II or III, (each not exceeding 1 L capacity)
Hazard class	Limited Quantity - US

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

UN number	UN1950
Proper shipping name	AEROSOLS, non-flammable, containing substances in Class 8, packing group III
Hazard class	Limited Quantity - Canada

IATA/ICAO (Air)

Basic shipping requirements:

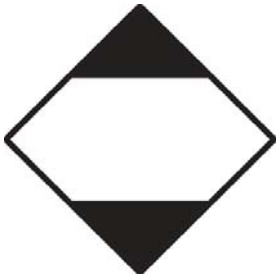
UN number	UN1950
Proper shipping name	Aerosols, non-flammable, containing substances in Class 8, Packing Group III
Hazard class	Limited Quantity - IATA

IMDG (Marine Transport)

Basic shipping requirements:

UN number	UN1950
Proper shipping name	AEROSOLS
Hazard class	Limited Quantity - IMDG

DOT; IMDG; TDG



IATA

15. Regulatory Information

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

Canada DSL Challenge Substances: Listed substance

Butane (CAS 106-97-8)	Listed.

Canada NPRI VOCs with Additional Reporting Requirements: Mass reporting threshold/Identification Number

Butane (CAS 106-97-8)	1 TONNES
Propane (CAS 74-98-6)	1 TONNES

Canada WHMIS Ingredient Disclosure: Threshold limits

Butane (CAS 106-97-8)	1 %

Sodium metasilicate (CAS 6834-92-0) 1 %

WHMIS status Controlled

WHMIS classification Class A - Compressed Gas, Class E - Corrosive Material

WHMIS labeling

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

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US CWA Section 311 Hazardous Substances: Listed substance

Sodium tripolyphosphate (CAS 7758-29-4) Listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Butane (CAS 106-97-8) Listed.
Propane (CAS 74-98-6) Listed.
Sodium tripolyphosphate (CAS 7758-29-4) Listed.

US CAA Section 112(r) Accidental Release Prevention - Regulated Flammable Substance: Listed substance

Butane (CAS 106-97-8) Regulated flammable substance.
Propane (CAS 74-98-6) Regulated flammable substance.

US CAA Section 112(r) Accidental Release Prevention: Threshold quantity

Butane (CAS 106-97-8) 10000 LBS
Propane (CAS 74-98-6) 10000 LBS

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Butane (CAS 106-97-8) Listed.
Propane (CAS 74-98-6) Listed.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

US CAA Section 612 SNAP Program: Listed substance

Butane (CAS 106-97-8) Listed.
Propane (CAS 74-98-6) Listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

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

US - California Hazardous Substances (Director's): Listed substance

Butane (CAS 106-97-8) Listed.
Sodium tripolyphosphate (CAS 7758-29-4) Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

US - Illinois Chemical Safety Act: Listed substance

Butane (CAS 106-97-8) Listed.
Propane (CAS 74-98-6) Listed.
Sodium tripolyphosphate (CAS 7758-29-4) Listed.

US - Louisiana Spill Reporting: Listed substance

Butane (CAS 106-97-8) Listed.

Propane (CAS 74-98-6)	Listed.
Sodium tripolyphosphate (CAS 7758-29-4)	Listed.

US - Minnesota Haz Subs: Listed substance

Butane (CAS 106-97-8)	Listed.
Propane (CAS 74-98-6)	Listed.

US - New Jersey RTK - Substances: Listed substance

Butane (CAS 106-97-8)	Listed.
Propane (CAS 74-98-6)	Listed.

US - New York Release Reporting: Hazardous Substances: Listed substance

Sodium tripolyphosphate (CAS 7758-29-4)	Listed.

US - Texas Effects Screening Levels: Listed substance

Alcohols, C9-11, ethoxylated (CAS 68439-46-3)	Listed.
Butane (CAS 106-97-8)	Listed.
Propane (CAS 74-98-6)	Listed.
Sodium metasilicate (CAS 6834-92-0)	Listed.
Sodium tripolyphosphate (CAS 7758-29-4)	Listed.

US. Massachusetts RTK - Substance List

Butane (CAS 106-97-8)	Listed.
Propane (CAS 74-98-6)	Listed.
Sodium tripolyphosphate (CAS 7758-29-4)	Listed.

US. Pennsylvania RTK - Hazardous Substances

Butane (CAS 106-97-8)	Listed.
Propane (CAS 74-98-6)	Listed.
Sodium tripolyphosphate (CAS 7758-29-4)	Listed.

US. Rhode Island RTK

Butane (CAS 106-97-8)	Listed.
Propane (CAS 74-98-6)	Listed.
Sodium tripolyphosphate (CAS 7758-29-4)	Listed.

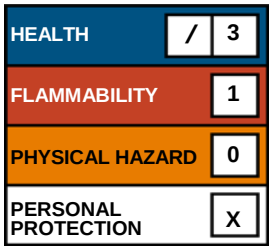
Inventory status

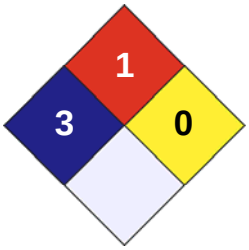
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

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

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0





Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. 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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Effective date 28-February-2015

Expiry date 28-February-2018

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

Prepared by Nu-Calgon Technical Service Phone: (314) 469-7000

Other information This Safety Data Sheet was prepared to comply with the current OSHA Hazard Communication Standard (HCS) adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).