

SAFETY DATA SHEET

1. Identification

Product number SO54A
Product identifier COIL CLEANING FOAM
Company information K-CHEM INC.
P. O. Box 530632
Birmingham, AL 35253 United States
Company phone General Assistance 205-592-0844
Emergency telephone US 1-800-255-3924
Emergency telephone outside US 1-813-248-0585
Version # 07
Recommended use All Purpose Cleaner
Recommended restrictions None known.

2. Hazard(s) identification

Physical hazards Flammable aerosols Category 1
Health hazards Not classified.
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3
Hazardous to the aquatic environment, long-term hazard Category 3
OSHA defined hazards Not classified.

Label elements



Signal word Danger
Hazard statement Extremely flammable aerosol.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use.
Response Wash hands after handling.
Storage Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

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

Supplemental information 6.84% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 6.84% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Butane		106-97-8	2.5 - 10
Propane		74-98-6	1 - 2.5
Diethylene Glycol Monoethyl Ether		111-90-0	0.1 - 1
Sodium Nitrite		7632-00-0	0.1 - 1

Chemical name	Common name and synonyms	CAS number	%
1,2-Propanediol		57-55-6	0 - 0.1
Ethylene Glycol		107-21-1	0 - 0.1
Sodium tetraboratedecahydrate		1303-96-4	0 - 0.1
Other components below reportable levels			90 - 100

#: This substance has workplace exposure limit(s).

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret. **Composition comments** The full text for all R-phrases is displayed in Section 16 of the SDS.

4. First-aid measures

Inhalation	If symptoms develop move victim to fresh air. Get medical attention if symptoms persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	In the unlikely event of swallowing contact a physician or poison control center.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	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. 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	Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. In the event of fire and/or explosion do not breathe fumes.
General fire hazards	Extremely flammable aerosol.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. 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. 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. Collect spillage. 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	Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. 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. All equipment used when handling the product must be grounded. Ground and bond containers when transferring material. Do not re-use empty containers. Use only in well-ventilated areas. Observe good industrial hygiene practices. Do not empty into drains.

Conditions for safe storage, including any incompatibilities

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS). Level 1 Aerosol (NFPA 30B)

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	Form
Butane (CAS 106-97-8)	STEL	1000 ppm	
Ethylene Glycol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol.
Sodium tetraborate decahydrate (CAS 1303-96-4)	STEL	6 mg/m3	Inhalable fraction.
	TWA	2 mg/m3	Inhalable fraction.

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
Sodium tetraborate decahydrate (CAS 1303-96-4)	TWA	5 mg/m3

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
1,2-Propanediol (CAS 57-55-6)	TWA	10 mg/m3	Aerosol.
Diethylene Glycol Monoethyl Ether (CAS 111-90-0)	TWA	140 mg/m3 25 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 safety glasses with side shields (or goggles).

Hand protection

For prolonged or repeated skin contact use suitable protective gloves.

Skin protection

Other

Wear suitable protective clothing.

Respiratory protection

If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Liquid.
Physical state	Gas.
Form	Aerosol.
Color	Off-white.
Odor	Not available.
Odor threshold	Not available.
pH	8.5 - 9.5 estimated
Melting point/freezing point	Not available.
Initial boiling point and boiling range	201.53 °F (94.18 °C) estimated
Flash point	-156.0 °F (-104.4 °C) Propellant estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	2 % estimated
Flammability limit - upper (%)	8.5 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	55 psig @70F estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	640.52 °F (338.07 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	0.88 g/cm ³ estimated
Flammability class	Flammable IB estimated
Heat of combustion	2.6 kJ/g estimated
Heat of combustion (NFPA 30B)	2.2 kJ/g estimated
Percent volatile	89.41 % estimated
Specific gravity	0.881 estimated
VOC (Weight %)	6.04 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point.
Incompatible materials	Strong oxidizing agents.

Hazardous decomposition No hazardous decomposition products are known.
products

11. Toxicological information

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	No adverse effects due to inhalation are expected.
Skin contact	Not available.
Eye contact	Direct contact with eyes may cause temporary irritation.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
1,2-Propanediol (CAS 57-55-6)		
Acute		
<i>Oral</i>		
LD50	Dog	19 g/kg
	Guinea pig	18.4 g/kg
	Mouse	23.9 g/kg
	Rabbit	18 g/kg
	Rat	30 g/kg
<i>Other</i>		
LD50	Mouse	6630 mg/kg
	Rat	6423 mg/kg
Butane (CAS 106-97-8)		
Acute		
<i>Inhalation</i>		
LC50	Mouse	680 mg/l, 2 Hours
	Rat	658 mg/l, 4 Hours
Diethylene Glycol Monoethyl Ether (CAS 111-90-0)		
Acute		
<i>Dermal</i>		
LD50	Guinea pig	5900 mg/kg
	Mouse	6000 mg/kg
	Rabbit	8476 mg/kg
	Rat	6000 mg/kg
<i>Oral</i>		
LD50	Guinea pig	3000 mg/kg
	Mouse	6.58 g/kg
	Rabbit	3620 mg/kg
	Rat	1920 mg/kg
<i>Other</i>		
LD50	Dog	3 g/kg
	Mouse	2300 mg/kg
	Rabbit	0.9 g/kg
	Rat	2200 mg/kg

Components	Species	Test Results
Ethylene Glycol (CAS 107-21-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	9530 mg/kg
<i>Oral</i>		
LD50	Cat	1650 mg/kg
	Dog	5500 mg/kg
	Guinea pig	8.2 g/kg
	Mouse	14.6 g/kg
	Rat	5.89 g/kg
<i>Other</i>		
LD50	Mouse	5.8 g/kg
	Rat	2800 mg/kg
Propane (CAS 74-98-6)		
Acute		
<i>Inhalation</i>		
LC50	Rat	> 1442.847 mg/l, 15 Minutes 658 mg/l/4h
Sodium Nitrite (CAS 7632-00-0)		
Acute		
<i>Inhalation</i>		
LC50	Rat	5.5 mg/l, 4 Hours
<i>Oral</i>		
LD50	Mouse	175 mg/kg
	Rabbit	186 mg/kg
	Rat	85 mg/kg
<i>Other</i>		
LD50	Mouse	158 mg/kg
	Rat	65 mg/kg
Sodium tetraboratedecahydrate (CAS 1303-96-4)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 10000 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 0.002 mg/l, 4 Hours
<i>Oral</i>		
LD50	Guinea pig	5330 mg/kg
	Mouse	2000 mg/kg
	Rat	396 mg/kg
<i>Other</i>		
LD50	Mouse	1320 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

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.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Product		Species	Test Results
18 OZ COIL CLEANING FOAM LB 12PK (CAS Mixture)			
Aquatic			
Crustacea	EC50	Daphnia	26187.4551 mg/l, 48 hours estimated
Fish	LC50	Fish	10285.4502 mg/l, 96 hours estimated
Components			
1,2-Propanediol (CAS 57-55-6)			
Aquatic			
Crustacea	EC50	Daphnia	10000.0001 mg/L, 48 Hours
		Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephalespromelas)	710 mg/l, 96 hours
Diethylene Glycol Monoethyl Ether (CAS 111-90-0)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 10000 mg/l, 96 hours
Ethylene Glycol (CAS 107-21-1)			
Aquatic			
Crustacea	EC50	Daphnia	46300 mg/L, 48 Hours
Fish	LC50	Fathead minnow (Pimephalespromelas)	8050 mg/l, 96 hours
Sodium Nitrite (CAS 7632-00-0)			
Aquatic			
Crustacea	EC50	Greasyback shrimp (Metapenaeus ensis)	16.14 - 26.61 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss)	0.15 - 0.25 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

1,2-Propanediol	-0.92
Butane	2.89
Diethylene Glycol Monoethyl Ether	-0.54
Ethylene Glycol	-1.36
Propane	2.36

Mobility in soil No data 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. 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	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

DOT

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IATA

UN number	
UN proper shipping name	
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Forbidden.
Cargo aircraft only	Forbidden.
Packaging Exceptions	LTD QTY

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	Not available.

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	None
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None
	UN1950
	Aerosols, flammable

Special precautions for user Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

Packaging Exceptions LTD QTY
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

DOT



IATA; IMDG



15. Regulatory information

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.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethylene Glycol (CAS 107-21-1) Listed.

Sodium Nitrite (CAS 7632-00-0) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Sodium Nitrite	7632-00-0	0.1 - 1

Other federal regulations

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

Ethylene Glycol (CAS 107-21-1)

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

Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

Safe Drinking Water Act (SDWA) Not regulated.**US state regulations****US. Massachusetts RTK - Substance List**

Butane (CAS 106-97-8)

Ethylene Glycol (CAS 107-21-

1) Propane (CAS 74-98-6)

Sodium Nitrite (CAS 7632-00-0)

Sodium tetraboratedecahydrate (CAS 1303-96-4)

US. New Jersey Worker and Community Right-to-Know Act

1,2-Propanediol (CAS 57-55-6)

Butane (CAS 106-97-8)

Ethylene Glycol (CAS 107-21-

1) Propane (CAS 74-98-6)

Sodium Nitrite (CAS 7632-00-0)

US. Pennsylvania Worker and Community Right-to-Know Law

1,2-Propanediol (CAS 57-55-6)

Butane (CAS 106-97-8)

Ethylene Glycol (CAS 107-21-

1) Propane (CAS 74-98-6)

Sodium Nitrite (CAS 7632-00-0)

Sodium tetraboratedecahydrate (CAS 1303-96-4)

US. Rhode Island RTK

Butane (CAS 106-97-8)

Ethylene Glycol (CAS 107-21-

1) Propane (CAS 74-98-6)

Sodium Nitrite (CAS 7632-00-0)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	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)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision**Issue date** 07-02-2014**Version #** 07

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.