



Material Safety Data Sheet

Material Name: Safety-Kleen Professional Surface Degreaser

ID: 820026

*** Section 1 - Chemical Product and Company Identification ***

Product Use: Cleaner and Surface Degreaser

THIS PRODUCT IS NOT FOR SALE OR USE IN THE STATE OF CALIFORNIA

Synonyms: None.

Safety-Kleen Systems, Inc.

Phone: 1-800-669-5740

2600 North Central Expressway

Suite 400

Richardson, Texas 75080

Emergency # 1-800-468-1760

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www.safety-kleen.com

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PREPARED BY: Product MSDS Coordinator

APPROVED BY: MSDS Task Force

*** Section 2 - Hazardous Identification ***

EMERGENCY OVERVIEW

Appearance

Compressed gas/spray, citrus odor

Signal Word

DANGER!

Physical Hazards

Extremely flammable liquid and vapor. Vapor may cause flash fire.

Contents under pressure.

Health Hazards

May be harmful if inhaled.

May be harmful if swallowed.

May be harmful if absorbed through skin.

May irritate the respiratory tract (nose, throat, and lungs) and skin.

May be severely irritating to the eyes with possible eye damage.

May cause skin sensitization.

Contains material which may cause central nervous system damage.

Suspect cancer hazard. Contains material which may cause cancer. Risk of cancer depends on duration and level of exposure.

POTENTIAL HEALTH EFFECTS

Inhalation (Breathing)

High concentrations of vapor or mist may be harmful if inhaled. High concentrations of vapor or mist may irritate the respiratory tract (nose, throat, and lungs). High concentrations of vapor or mist may cause nausea, vomiting, headaches, dizziness, loss of coordination, numbness, and other central nervous system effects. Massive acute overexposure may cause rapid central nervous system depression, sudden collapse, coma, and/or death. May cause allergic respiratory reaction on rare occasion.

Eyes

This product may be severely irritating to the eyes with possible eye injury. Symptoms may include blurred vision.

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May cause irritation. This product may cause skin sensitization (an allergic skin reaction). Diethanolamine may be absorbed through the skin.

Ingestion (Swallowing)

May be harmful if swallowed. May cause throat irritation, nausea, vomiting, and central nervous system effects as noted under **INHALATION (BREATHING)**. Aspiration hazard: breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

Medical Conditions Aggravated by Exposure

Individuals with pre-existing respiratory tract (nose, throat, and lungs), central nervous system, liver, kidney, eye, and/or skin disorders may have increased susceptibility to the effects of exposure.

Chronic

Prolonged or repeated inhalation may cause toxic effects as noted under **INHALATION (BREATHING)**. Prolonged or repeated eye contact may cause inflammation of the membrane lining the eyelids and covering the eyeball (conjunctivitis), eye injury, or blurred vision. Prolonged or repeated skin contact may cause drying, cracking, and/or itching. Prolonged or repeated inhalation may cause kidney, liver, and central nervous system damage. Prolonged or repeated exposure may have reproductive toxicity, teratogenic or mutagenic effects. May cause allergic respiratory reaction on rare occasion.

Cancer Information

Suspected of causing cancer. For more information, see **SECTION 11: CARCINOGENICITY**.

Environmental Hazards

Based upon components, this product may be harmful to aquatic life.; See **SECTION 12: ECOLOGICAL INFORMATION**.

*** Section 3 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7732-18-5	Water	>40
5989-27-5	D-Limonene	18
75-28-5	Isobutane	<10
74-98-6	Propane	<10
67-63-0	Isopropyl alcohol	<10
34398-01-1	Poly(oxy-1,2-ethanediyl), α -undecyl- ω -hydroxy-	<10
68603-42-9	Coconut diethanolamide	<9
61790-12-3	Tall oil fatty acids	<4
111-42-2	Diethanolamine	<4
64-02-8	Tetrasodium EDTA	<2

*** Section 4 - First Aid Measures ***

Inhalation (Breathing)

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Someone should stay with victim. Get medical attention if breathing difficulty persists.

Eyes

If irritation or redness from exposure to vapor develops, move away from exposure into fresh air. Upon contact, immediately flush eyes with plenty of lukewarm water, holding eyelids apart, for 15 minutes. Get medical attention.

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Remove affected clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if irritation or pain develops or persists. Wash contaminated clothing before reuse.

Ingestion (Swallowing)

Do NOT induce vomiting. Immediately get medical attention. Call 1-800-468-1760 for additional information. If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything by mouth to an unconscious person.

Notes to Physicians

Treat symptomatically and supportively. Sympathomimetic drugs may initiate cardiac arrhythmias. Administration of gastric lavage, if warranted, should be performed by qualified medical personnel. Treatment may vary with condition of victim and specifics of incident. Call 1-800-468-1760 for additional information.

* * * Section 5 - Fire Fighting Measures * * *

Hazardous Combustion Products

Decomposition and combustion materials may be toxic. Burning may produce carbon monoxide, nitrogen oxides, and various hydrocarbons.

Conditions of Flammability

Heat, sparks or flame.

Extinguishing Media

Regular foam, carbon dioxide, dry chemical.

Protective Equipment For Firefighting

Keep storage containers cool with water spray.

Fire Fighting Equipment/Instructions

A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

NFPA Ratings: Health: 2 Fire: 3 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Fire and Explosion Hazards

Contents under pressure. Vapor explosion hazard indoors, outdoors, or in sewers. Vapor may travel to ignition source and flashback. Vapors will spread along the ground and collect in low or confined areas. Run-off to sewer may create a fire or explosion hazard. Heated containers may rupture, explode, or be thrown into the air. "Empty" containers may retain residue and can be dangerous. Products are not sensitive to mechanical impact. Product may be sensitive to static discharge, which could result in fire or explosion.

* * * Section 6 - Accidental Release Measures * * *

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface water and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean, sparkproof tool into a sealable container for disposal. Additionally, for large spills: Water spray may reduce vapor, but may not prevent ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal.

There may be specific regulatory reporting requirements associated with spills, leaks, or releases of this product. Also see **SECTION 15: REGULATORY INFORMATION**.

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*** Section 7 - Handling and Storage ***

Handling Procedures

Keep away from heat, sparks, or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean, sparkproof tools and explosion-proof equipment. When transferring product, metal containers, including trucks and tank cars, should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes, skin, clothing, and shoes. Do not smoke when using this product. Contents under pressure. Do not puncture or heat canister.

Shipping and Storing

Keep container tightly closed when not in use and during transport. Store containers in a cool, dry place. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from flame, sparks, static electricity, or other sources of ignition; containers may explode and cause injury or death. Empty product containers may retain product residue and can be dangerous. See **SECTION 14: TRANSPORTATION INFORMATION** for Packing Group information.

*** Section 8 - Exposure Controls / Personal Protection ***

Exposure Guidelines

Component Exposure Limits

Isopropyl alcohol (67-63-0)

ACGIH: 200 ppm TWA
400 ppm STEL

OSHA Final: 400 ppm TWA; 980 mg/m³ TWA

OSHA Vacated: 400 ppm TWA; 980 mg/m³ TWA
500 ppm STEL; 1225 mg/m³ STEL

NIOSH: 400 ppm TWA; 980 mg/m³ TWA
500 ppm STEL; 1225 mg/m³ STEL

Propane (74-98-6)

ACGIH: 1000 ppm TWA

OSHA Final: 1000 ppm TWA; 1800 mg/m³ TWA

OSHA Vacated: 1000 ppm TWA; 1800 mg/m³ TWA

NIOSH: 1000 ppm TWA; 1800 mg/m³ TWA

Isobutane (75-28-5)

ACGIH: 1000 ppm STEL

NIOSH: 800 ppm TWA; 1900 mg/m³ TWA

Diethanolamine (111-42-2)

ACGIH: 1 mg/m³ TWA (inhalable fraction and vapor)

Skin - potential significant contribution to overall exposure by the cutaneous route

OSHA Vacated: 3 ppm TWA; 15 mg/m³ TWA

NIOSH: 3 ppm TWA; 15 mg/m³ TWA

Engineering Controls

Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits. Where explosive mixtures may be present, equipment safe for such locations should be used.

Personal Protective Equipment: Respiratory

Use NIOSH-certified, air-purifying respirators with N-, P-, or R- series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. Protection provided by air-purifying respirators is limited. Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

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Personal Protective Equipment: Eyes/Face

Wear chemical goggles; contact lens use is not recommended.

Personal Protective Equipment: Skin

Where skin contact is likely, wear chemical impervious protective gloves; use of natural rubber (latex) or equivalent gloves is not recommended.

To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, whole body suits, or other protective clothing.

Personal Protective Equipment: Personal Hygiene

Use good personal hygiene. Wash thoroughly with soap and water after handling product and before eating, drinking, or using tobacco products. Clean affected clothing, shoes, and protective equipment before reuse.

Discard affected clothing, shoes, and/or protective equipment if they cannot be thoroughly cleaned. Discard leather articles, such as shoes, saturated with this product.

Other Personal Protective Equipment

Where spills and splashes are likely, facilities storing or using this product should be equipped with an emergency eyewash and shower, both equipped with clean water, in the immediate work area.

*** Section 9 - Physical & Chemical Properties ***

Appearance/Odor : Liquid gas/spray, citrus odor

Citrus odor

pH: 9.6

Odor Threshold: Not available

Boiling Point: Not available

Melting Point: Not available

Solubility (H2O): Soluble

Specific Gravity: 0.96

Density: Not available

Octanol/H2O Coeff.: Not available.

Evaporation Rate: <1

Molecular Weight: Not available

Auto Ignition Temperature: Not available

LFL: Not available

Flash Point: 28.9°C (84°F) (Concentrate)

UFL: Not available

Viscosity: Not available

Vapor Pressure: 52 psig

Flammability Class: Flammable

Vapor Density: Not available

Percent Volatile: Not available

Freezing Point: Not available

Flash Point Method: Tag Closed Cup

*** Section 10 - Chemical Stability & Reactivity Information ***

Stability

Stable under normal temperatures and pressures. Avoid heat, sparks, or flame.

Incompatibility

This product may react with strong acids, bases, oxidizing agents and reducing agents and some metals.

Reactivity

Polymerization is not known to occur under normal temperature and pressures. Not reactive with water.

Hazardous Decomposition Products

None under normal temperatures and pressures. See also **SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.**

Conditions To Avoid

Heat, sparks, or flame and incompatible materials.

*** Section 11 - Toxicological Information ***

Toxicity Data

Component Analysis - LD50/LC50

D-Limonene (5989-27-5)

Dermal LD50 Rabbit >5 g/kg

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Isopropyl alcohol (67-63-0)

Oral LD50 Rat 4396 mg/kg; Dermal LD50 Rabbit 12800 mg/kg; Inhalation LC50 Rat 16000 ppm 8 h

Propane (74-98-6)

Inhalation LC50 Rat 658 mg/L 4 h

Isobutane (75-28-5)

Inhalation LC50 Rat 658 mg/L 4 h

Tall oil fatty acids (61790-12-3)

Oral LD50 Rat 7600 mg/kg

Acute Effects

Harmful by inhalation and if in contact with skin. May be absorbed through the skin. Harmful if swallowed. Irritating to respiratory tract and skin. May be severely irritating to the eyes with possible eye damage. High concentrations of vapor or mist may cause nausea, vomiting, headaches, dizziness, loss of coordination, numbness, and other central nervous system effects. This product may cause skin sensitization (an allergic skin reaction).

Repeated Dose Effects

Repeated or prolonged exposure may cause irritation and/or sensitization of the respiratory system.

Isopropyl alcohol has demonstrated animal effects of mutagenicity. Based on best current information, the other components listed in **SECTION 2** are not mutagens.

Isopropyl alcohol and diethanolamine have demonstrated animal effects of reproductive toxicity. Also see **SECTION 15: CALIFORNIA**. Based on best current information, the other components listed in **SECTION 2** are not reproductive toxicants.

Isopropyl alcohol has demonstrated animal effects of teratogenicity. Based on best current information, the other components listed in **SECTION 2** are not teratogens.

Component Carcinogenicity

D-Limonene (5989-27-5)

IARC: Monograph 73 [1999] (overall evaluation downgraded from 2B to 3 with supporting evidence from other relevant data) (Group 3 (not classifiable))

Isopropyl alcohol (67-63-0)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 71 [1999]; Supplement 7 [1987]; Monograph 15 [1977] (Group 3 (not classifiable))

Coconut diethanolamide (68603-42-9)

OSHA: Present (select carcinogen)

IARC: Monograph 101 [2012] (Group 2B (possibly carcinogenic to humans))

Diethanolamine (111-42-2)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

OSHA: Present (select carcinogen)

IARC: Monograph 101 [2012]; Monograph 77 [2000] (Group 2B (possibly carcinogenic to humans))

Target Organ Effects

Prolonged or repeated inhalation may cause kidney, liver, and central nervous system damage.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

Based upon components, this product is may be harmful to aquatic life.

Component Analysis - Ecotoxicity - Aquatic Toxicity

D-Limonene (5989-27-5)

Duration/Test/Species	Concentration/Conditions	Notes
96 Hr LC50 Pimephales promelas	0.619 - 0.796 mg/L [flow-through]	
96 Hr LC50 Oncorhynchus mykiss	35 mg/L	

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Isopropyl alcohol (67-63-0)

Duration/Test/Species	Concentration/Conditions	Notes
96 Hr LC50 Pimephales promelas	9640 mg/L [flow-through]	
96 Hr LC50 Pimephales promelas	11130 mg/L [static]	
96 Hr LC50 Lepomis macrochirus	>1400000 µg/L	
96 Hr EC50 Desmodesmus subspicatus	>1000 mg/L	
72 Hr EC50 Desmodesmus subspicatus	>1000 mg/L	

Coconut diethanolamide (68603-42-9)

Duration/Test/Species	Concentration/Conditions	Notes
96 Hr LC50 Brachydanio rerio	3.6 mg/L [semi-static]	

Tall oil fatty acids (61790-12-3)

Duration/Test/Species	Concentration/Conditions	Notes
72 Hr EC50 Pseudokirchneriella subcapitata	>=1000 mg/L	

Diethanolamine (111-42-2)

Duration/Test/Species	Concentration/Conditions	Notes
96 Hr LC50 Pimephales promelas	4460 - 4980 mg/L [flow-through]	
96 Hr LC50 Pimephales promelas	1200 - 1580 mg/L [static]	
96 Hr LC50 Lepomis macrochirus	600 - 1000 mg/L [static]	
72 Hr EC50 Desmodesmus subspicatus	7.8 mg/L	
96 Hr EC50 Pseudokirchneriella subcapitata	2.1 - 2.3 mg/L	

Tetrasodium EDTA (64-02-8)

Duration/Test/Species	Concentration/Conditions	Notes
96 Hr LC50 Lepomis macrochirus	41 mg/L [static]	
96 Hr LC50 Pimephales promelas	59.8 mg/L [static]	
72 Hr EC50 Desmodesmus subspicatus	1.01 mg/L	

Persistence/Degradability

May cause long-term adverse effects in the aquatic environment.

Bioaccumulation/Accumulation

Product is not expected to bioaccumulate.

Mobility in Environmental Media

Not available.

Other Adverse Effects

No additional information available.

* * * Section 13 - Disposal Considerations * * *

Disposal Instructions

Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal.

US EPA Waste Number & Descriptions

If discarded, this product is considered a RCRA ignitable waste, D001. If recycled in the USA, it must be managed in accordance with 40 CFR Part 279. Processing, use, or contamination by the user may change the waste code(s) applicable to the disposal of this product.

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*** Section 14 - Transportation Information ***

Emergency Response Guide Number

126

DOT Shipping Name: Aerosols

UN/NA #: UN1950 **Hazard Class:** 2.1

Required Label(s): FLAMMABLE GAS

TDG Shipping Name: Aerosols

UN/NA #: UN1950 **Hazard Class:** 2.1

Required Label(s): FLAMMABLE

IATA Information

No Classification Assigned.

IMDG Information

No Classification Assigned.

*** Section 15 - Regulatory Information ***

VOC (As Regulated)

37 WT%; 2.98 LB/US gal; 357 g/L

Vapor Pressure (d-Limonene) @20°C = 1.5 mmHg

Contains photochemically reactive.

SARA Sections 311/312

This product poses the following health hazards as defined in 40 CFR Part 370 and is subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA):

Immediate (Acute) Health Hazard

Delayed (Chronic) Health Hazard

Fire Hazard

SARA 302/304

Component Analysis

Based on the ingredient(s) listed in SECTION 3, this product does not contain any "extremely hazardous substances" listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B.

SARA Section 313

Component Analysis

This product contains a "toxic" chemical subject to the requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372.

Isopropyl alcohol (67-63-0)

1.0 % de minimis concentration (only if manufactured by the strong acid process, no supplier notification)

Diethanolamine (111-42-2)

1.0 % de minimis concentration

CERCLA

Component Analysis

Based on the ingredient(s) listed in SECTION 3, this product contains the following "hazardous substance" listed under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) in 40 CFR Part 302, Table 302.4 with the following reportable quantities (RQ):

Diethanolamine (111-42-2)

100 lb final RQ; 45.4 kg final RQ

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TSCA

All the components of this product are listed on, or are automatically included as "naturally occurring chemical substances" on, or are exempted from the requirement to be listed on, the TSCA Inventory.

Component Analysis

Component	CAS #	TSCA
Water	7732-18-5	Yes
D-Limonene	5989-27-5	Yes
Isopropyl alcohol	67-63-0	Yes
Propane	74-98-6	Yes
Isobutane	75-28-5	Yes
Poly(oxy-1,2-ethanediyl), α -undecyl- ω -hydroxy-	34398-01-1	Yes
Coconut diethanolamide	68603-42-9	Yes
Tall oil fatty acids	61790-12-3	Yes
Diethanolamine	111-42-2	Yes
Tetrasodium EDTA	64-02-8	Yes

State Regulations

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	MA	MN	NJ	PA	CA
Isopropyl alcohol	67-63-0	Yes	Yes	Yes	Yes	Yes
Propane	74-98-6	No	Yes	Yes	Yes	Yes
Isobutane	75-28-5	No	Yes	No	Yes	Yes
Diethanolamine	111-42-2	Yes	Yes	Yes	Yes	Yes

Canadian Regulations

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by the CPR.

Component Analysis

Component	CAS #	CAN
Water	7732-18-5	DSL
D-Limonene	5989-27-5	DSL
Isopropyl alcohol	67-63-0	DSL
Propane	74-98-6	DSL
Isobutane	75-28-5	DSL
Poly(oxy-1,2-ethanediyl), α -undecyl- ω -hydroxy-	34398-01-1	DSL
Coconut diethanolamide	68603-42-9	DSL
Tall oil fatty acids	61790-12-3	DSL
Diethanolamine	111-42-2	DSL
Tetrasodium EDTA	64-02-8	DSL

Canadian WHMIS Information

WHMIS Classification: A1, B2, D2A, D2B

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

D-Limonene (5989-27-5)	1 %
Isopropyl alcohol (67-63-0)	1 %
Diethanolamine (111-42-2)	1 %

Canadian Environmental Protection Act (CEPA)

All the components of this product are listed on, or are automatically included as "substance occurring in nature" on, or are exempted from the requirements to be listed on, the Canadian Domestic Substances List (DSL).

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* * * Section 16 - Other Information * * *
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Label/Other Information

Not available.

Revision Information

3 year regulatory update. This MSDS has been revised in the following sections: 2,3, 11, and 16.

Disclaimer

User assumes all risks incident to the use of this (these) product(s). To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet apply to the product(s) as supplied to the user.

End of Sheet 820026