



SAFETY DATA SHEET

SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

1. Identification

Product identifier

Product name SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

Product number MCC-SPR, MCC-SPR19A, MCC-SPR12Y

Synonyms; trade names "SPR - SUPRCLEAN Nonflammable Flux Remover"

Recommended use of the chemical and restrictions on use

Application Cleaning agent.

Uses advised against No specific uses advised against are identified.

Details of the supplier of the safety data sheet

Supplier MicroCare LLC
Tel: +1 860-827-0626

Manufacturer MICROCARE LLC
595 John Downey Drive
New Britain, CT 06051
United States of America
CAGE: OATV9
Tel: + 1 800 638 0125, +1 860-827-0626
techsupport@microcare.com

Emergency telephone number

Emergency telephone INFOTRAC 1-800-535-5053 (U.S.A. and CANADA)
1-352-323-3500 (from anywhere in the world)

2. Hazard(s) identification

Classification of the substance or mixture

OSHA Regulatory Status This Product is Hazardous under the OSHA Hazard Communication Standard.

Physical hazards Aerosol 3

Health hazards Acute Tox. 4 - H332 Eye Irrit. 2A - H319 Repr. 1B - H360 STOT SE 3 - H336

Physicochemical

Vapors are heavier than air and may travel along the floor and accumulate in the bottom of containers. Gas or vapor displaces oxygen available for breathing (asphyxiant).

Label elements

Hazard symbols



Signal word

Danger

SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

Hazard statements	H332 Harmful if inhaled. H319 Causes serious eye irritation. H360 May damage fertility or the unborn child.
Precautionary statements	P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking. P211 Do not spray on an open flame or other ignition source. P251 Pressurized container: Do not pierce or burn, even after use P261 Avoid breathing vapor/ spray. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P314 Get medical advice/ attention if you feel unwell. P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C /122°F. P501 Dispose of contents/ container in accordance with national regulations.
Supplemental label information	EUH210 Safety data sheet available on request. RCH001a For use in industrial installations only.
Contains	trans-1,2-DICHLOROETHYLENE, METHANOL

Other hazards

Harmful if inhaled

3. Composition/information on ingredients

Mixtures

trans-1,2-DICHLOROETHYLENE	30-60%
CAS number: 156-60-5	
Classification	
Flam. Liq. 2 - H225 Acute Tox. 4 - H332 Eye Irrit. 2A - H319 STOT SE 3 - H336 Not relevant.	
HFC-134a Tetrafluoroethane	10-30%
CAS number: 811-97-2	
Classification	
Press. Gas, Liquefied - H280 Simple Asphyxiant - USH03	
1,1,1,2,2,3,4,5,5,5-decafluoropentane	10-30%
CAS number: 138495-42-8	
Classification	
Not relevant.	
ETHANOL	1-5%
CAS number: 64-17-5	
Classification	
Flam. Liq. 2 - H225	

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METHANOL	<1%
CAS number: 67-56-1	
Classification	
Flam. Liq. 2 - H225	
Acute Tox. 3 - H301	
Acute Tox. 3 - H311	
Acute Tox. 3 - H331	
STOT SE 1 - H370	
ISOBUTYL METHYL KETONE	<1%
CAS number: 108-10-1	
Classification	
Flam. Liq. 2 - H225	
Acute Tox. 4 - H332	
Eye Irrit. 2A - H319	
Carc. 2 - H351	
STOT SE 3 - H335	
ETHYL ACETATE	<1%
CAS number: 141-78-6	
Classification	
Flam. Liq. 2 - H225	
Eye Irrit. 2A - H319	
STOT SE 3 - H336	

The full text for all hazard statements is displayed in Section 16.

Composition comments TSCA: The ingredients of this product are on the TSCA Inventory. The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of CFR 1900.1200

Ingredient notes Denaturants in Ethanol include Methanol, CAS# 67-56-1; MIBK, CAS# 108-10-1 and Ethyl acetate, CAS# 141-78-6

Composition

4. First-aid measures

Description of first aid measures

General information	If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention. Place unconscious person on their side in the recovery position and ensure breathing can take place.
Ingestion	Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless under the direction of medical personnel.
Skin Contact	Rinse with water.

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Eye contact Remove any contact lenses and open eyelids wide apart. Rinse with water. Get medical attention if any discomfort continues.

Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue.

Most important symptoms and effects, both acute and delayed

General information The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation A single exposure may cause the following adverse effects: Headache. Exhaustion and weakness.

Ingestion No specific symptoms known.

Skin contact No specific symptoms known.

Eye contact No specific symptoms known. May be slightly irritating to eyes.

Indication of immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Specific hazards Containers can burst violently or explode when heated, due to excessive pressure build-up. This product is toxic.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Toxic gases or vapors.

Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapors. Evacuate area. Keep upwind to avoid inhalation of gases, vapors, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of vapors and spray/mists. Use suitable respiratory protection if ventilation is inadequate.

Environmental precautions

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Environmental precautions Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.

Methods and material for containment and cleaning up

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Provide adequate ventilation. Small Spillages: Collect spillage. Large Spillages: Absorb spillage with non-combustible, absorbent material. The contaminated absorbent may pose the same hazard as the spilled material. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. For waste disposal, see Section 13.

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use. Avoid the formation of mists. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage precautions Store away from incompatible materials (see Section 10). Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.

Storage class Miscellaneous hazardous material storage.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.

8. Exposure controls/Personal protection

Control parameters

Occupational exposure limits

trans-1,2-DICHLOROETHYLENE

Long-term exposure limit (8-hour TWA): ACGIH 200 ppm 793 mg/m³

HFC-134a Tetrafluoroethane

Long-term exposure limit (8-hour TWA): OES 4240 mg/m³

1,1,1,2,2,3,4,5,5,5-decafluoropentane

No information available that would effect occupational exposure limit values.

ETHANOL

Short-term exposure limit (15-minute): ACGIH 1000 ppm 1880 mg/m³

A3

Long-term exposure limit (8-hour TWA): OSHA 1000 ppm 1900 mg/m³

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METHANOL

Long-term exposure limit (8-hour TWA): ACGIH 200 ppm 262 mg/m³

Short-term exposure limit (15-minute): ACGIH 250 ppm 328 mg/m³

Sk

Long-term exposure limit (8-hour TWA): OSHA 200 ppm 260 mg/m³

ISOBUTYL METHYL KETONE

Long-term exposure limit (8-hour TWA): ACGIH 20 ppm 82 mg/m³

Short-term exposure limit (15-minute): ACGIH 75 ppm 307 mg/m³

A3

Long-term exposure limit (8-hour TWA): OSHA 100 ppm 410 mg/m³

ETHYL ACETATE

Long-term exposure limit (8-hour TWA): ACGIH 400 ppm 1440 mg/m³

Long-term exposure limit (8-hour TWA): OSHA 400 ppm 1400 mg/m³

ACGIH = American Conference of Governmental Industrial Hygienists.

A3 = Confirmed Animal Carcinogen with Unknown Relevance to Humans.

OSHA = Occupational Safety and Health Administration.

Sk = Danger of cutaneous absorption.

ETHANOL (CAS: 64-17-5)

Ingredient comments WEL = Workplace Exposure Limits

METHANOL (CAS: 67-56-1)

Biological limit values 15 mg/l

Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Ensure the ventilation system is regularly maintained and tested. Good general ventilation should be adequate to control worker exposure to airborne contaminants. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

Hand protection

No specific hand protection recommended. Avoid contact with skin.

Other skin and body protection

Wear appropriate clothing to prevent repeated or prolonged skin contact.

Hygiene measures

Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

Respiratory protection

Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.

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Environmental exposure controls Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear liquid.
Color	Colorless.
Odor	Slight. Ether.
Odor threshold	No information available.
pH	No information available.
Melting point	No information available.
Initial boiling point and range	41°C/106°F @ 101.3 kPa
Flash point	The product is not flammable.
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Upper flammable/explosive limit: 14.4 %(V) Lower flammable/explosive limit: 5.0 %(V)
Other flammability	The product is not flammable.
Vapor pressure	37.9 kPa @ 20°C
Vapor density	3.4
Relative density	1.26 g/cc
Bulk density	No information available.
Solubility(ies)	0.3 % water @ 20°C
Partition coefficient	No information available.
Auto-ignition temperature	No information available.
Decomposition Temperature	No information available.
Viscosity	0.48 cP @ 20°C
Explosive properties	No information available.
Oxidizing properties	Not known.
Global Warming Potential (GWP)	
Surface tension	
Refractive index	No information available.
Particle size	No information available.
Molecular weight	Not applicable.

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Volatility	100%
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	This product contains a maximum VOC content of 1080 g/l.
Heat of vaporization (at boiling point), cal/g (Btu/lb)	

10. Stability and reactivity

Reactivity	See the other subsections of this section for further details.
Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
Possibility of hazardous reactions	No potentially hazardous reactions known.
Conditions to avoid	There are no known conditions that are likely to result in a hazardous situation.
Materials to avoid	No specific material or group of materials is likely to react with the product to produce a hazardous situation.
Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Toxic gases or vapors.

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Based on available data the classification criteria are not met.

ATE oral (mg/kg) 62,912.87

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

ATE dermal (mg/kg) 188,738.6

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Acute Tox. 4 - H332 Harmful if inhaled.

ATE inhalation (vapours mg/l) 11.0

ATE inhalation (dusts/mists mg/l) 314.56

Skin corrosion/irritation

Animal data Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitization

Respiratory sensitization Based on available data the classification criteria are not met.

Skin sensitization

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Skin sensitization	Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	Based on available data the classification criteria are not met.
IARC carcinogenicity	Contains a substance/a group of substances which may cause cancer. IARC Group 1 Carcinogenic to humans.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.
<u>Aspiration hazard</u>	
Aspiration hazard	Based on available data the classification criteria are not met.
General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	A single exposure may cause the following adverse effects: Headache. Exhaustion and weakness.
Ingestion	No specific symptoms known.
Skin Contact	No specific symptoms known.
Eye contact	No specific symptoms known.
Route of exposure	Ingestion Inhalation Skin and/or eye contact
Target Organs	No specific target organs known.

Toxicological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Other health effects	There is no evidence that the product can cause cancer.
<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	7,902.0
Species	Rat
ATE oral (mg/kg)	7,902.0
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	5,000.0
Species	Rat

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ATE dermal (mg/kg)	5,000.0
<u>Acute toxicity - inhalation</u>	
ATE inhalation (vapours mg/l)	11.0
<u>Skin corrosion/irritation</u>	
Skin corrosion/irritation	Prolonged and frequent contact may cause redness and irritation.
Animal data	Slightly irritating. Rabbit
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Supplier's information. Rabbit 500 mg 24 hours Causes mild skin irritation.
<u>Respiratory sensitization</u>	
Respiratory sensitization	No specific test data are available.
<u>Skin sensitization</u>	
Skin sensitization	No specific test data are available.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	This substance has no evidence of mutagenic properties.
Genotoxicity - in vivo	This substance has no evidence of mutagenic properties.
<u>Carcinogenicity</u>	
Carcinogenicity	No specific test data are available.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	NOAEL Not available.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	NOAEL 16 mg/l, 90 days
Target organs	Endocrine system Liver Kidneys Bladder Respiratory tract
<u>HFC-134a Tetrafluoroethane</u>	
Other health effects	There is no evidence that the product can cause cancer.
<u>Acute toxicity - inhalation</u>	
Acute toxicity inhalation (LC₅₀ gases ppmV)	567,000.0
Species	Rat
ATE inhalation (gases ppm)	567,000.0
Inhalation	Vapors irritate the respiratory system. May cause coughing and difficulties in breathing.
Ingestion	May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.
Skin Contact	May cause allergic contact eczema. Contact with liquid form may cause frostbite.

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Eye contact	May cause temporary eye irritation.
	<u>1,1,1,2,2,3,4,5,5,5-decafluoropentane</u>
<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	5,000.0
Species	Rat
ATE oral (mg/kg)	5,000.0
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	5,000.0
Species	Rat
ATE dermal (mg/kg)	5,000.0
<u>Acute toxicity - inhalation</u>	
Acute toxicity inhalation (LC₅₀ vapours mg/l)	114.0
Species	Rat
ATE inhalation (vapours mg/l)	114.0
<u>Skin corrosion/irritation</u>	
Animal data	Not irritating. Rabbit
Human skin model test	Data lacking.
Extreme pH	Not applicable. Not corrosive to skin.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Not irritating. Rabbit
<u>Respiratory sensitization</u>	
Respiratory sensitization	Data lacking.
<u>Skin sensitization</u>	
Skin sensitization	Not sensitizing. - Guinea pig: Not sensitizing.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	This substance has no evidence of mutagenic properties.
Genotoxicity - in vivo	This substance has no evidence of mutagenic properties.
<u>Carcinogenicity</u>	
Carcinogenicity	Does not contain any substances known to be carcinogenic.
IARC carcinogenicity	Not listed.
NTP carcinogenicity	Not listed.
OSHA Carcinogenicity	Not listed.

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Reproductive toxicity

Reproductive toxicity - fertility No evidence of reproductive toxicity in animal studies.

Skin Contact Skin irritation should not occur when used as recommended. May cause defatting of the skin but is not an irritant.

Eye contact May cause eye irritation.

Acute and chronic health hazards There is no evidence that the product can cause cancer.

ETHANOL

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 20,000.0

ATE inhalation (vapours mg/l) 20,000.0

METHANOL

Acute toxicity - oral

Notes (oral LD₅₀) Acute Tox. 3 - H301 Toxic if swallowed.

ATE oral (mg/kg) 100.0

Acute toxicity - dermal

Notes (dermal LD₅₀) Acute Tox. 3 - H311 Toxic in contact with skin.

ATE dermal (mg/kg) 300.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Acute Tox. 3 - H331 Toxic if inhaled.

ATE inhalation (vapours mg/l) 3.0

ATE inhalation (dusts/mists mg/l) 0.5

Skin corrosion/irritation

Animal data Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitization

Respiratory sensitization Based on available data the classification criteria are not met.

Skin sensitization

Skin sensitization Based on available data the classification criteria are not met.

Germ cell mutagenicity

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Genotoxicity - in vitro	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	Based on available data the classification criteria are not met.
IARC carcinogenicity	None of the ingredients are listed or exempt.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	STOT SE 1 - H370 Causes damage to organs .
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.
<u>Aspiration hazard</u>	
Aspiration hazard	Based on available data the classification criteria are not met.
<u>General information</u>	
General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	A single exposure may cause the following adverse effects: Drowsiness, dizziness, disorientation, vertigo. Unconsciousness. High concentrations may be fatal.
Ingestion	May cause stomach pain or vomiting. May cause severe internal injury.
Skin Contact	A single exposure may cause the following adverse effects: Pain.
Eye contact	No specific symptoms known.
Route of exposure	Ingestion Inhalation Skin and/or eye contact
Target Organs	No specific target organs known.

ISOBUTYL METHYL KETONE

<u>Acute toxicity - inhalation</u>	
ATE inhalation (vapours mg/l)	11.0
ATE inhalation (dusts/mists mg/l)	1.5
<u>Carcinogenicity</u>	
IARC carcinogenicity	IARC Group 2B Possibly carcinogenic to humans.

12. Ecological information

Ecological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Ecotoxicity	Harmful to aquatic life. May cause long lasting harmful effects to aquatic life.
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1,1,1,2,2,3,4,5,5,5-decafluoropentane

Ecotoxicity It is unlikely that the substance will dissolve in water in amounts big enough to have a toxic effect on fish and daphnies.

METHANOL

Ecotoxicity Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

Toxicity Aquatic Chronic 3 - H412 Harmful to aquatic life with long lasting effects.

Ecological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 135 mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 220 mg/l, Daphnia magna

Acute toxicity - aquatic plants LC₅₀, 72 hours: 36.36 mg/l, Pseudokirchneriella subcapitata

Chronic aquatic toxicity

Chronic toxicity - fish early life stage NOEC, 48 hours: 110,000 mg/l, Daphnia magna

HFC-134a Tetrafluoroethane

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 450 mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 980 mg/l, Daphnia magna

1,1,1,2,2,3,4,5,5,5-decafluoropentane

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 13.9 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates LC₅₀, 48 hours: 11.7 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: >120 mg/l, Algae

ETHANOL

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: >10,000 mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 7,800 mg/l, Daphnia magna

Acute toxicity - aquatic plants , 96 hours: 1000 mg/l, Freshwater algae

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METHANOL

Toxicity	Based on available data the classification criteria are not met.
<u>Acute aquatic toxicity</u>	
Acute toxicity - fish	LC ₅₀ , 96 hours: >100 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: >10000 mg/l, Daphnia magna

Persistence and degradability

Persistence and degradability The degradability of the product is not known.

Ecological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Biodegradation	Not readily biodegradable. Method: OECD Test Guideline 301D
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ETHANOL

Persistence and degradability	The product is expected to be biodegradable.
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METHANOL

Persistence and degradability	The degradability of the product is not known.
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Bioaccumulative potential

Bio-Accumulative Potential No data available on bioaccumulation.

Partition coefficient No information available.

Ecological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Bio-Accumulative Potential	Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.
Partition coefficient	log Pow: 2.06

HFC-134a Tetrafluoroethane

Partition coefficient	Pow: 1.06
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1,1,1,2,2,3,3,4,5,5,5-decafluoropentane

Bio-Accumulative Potential	Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.
Partition coefficient	Pow: 2.7

ETHANOL

Bio-Accumulative Potential Bioaccumulation is unlikely.

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Partition coefficient No information available.

METHANOL

Bio-Accumulative Potential No data available on bioaccumulation.

Partition coefficient : -0.77

Mobility in soil

Mobility No data available.

Ecological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Mobility The product has poor water-solubility.

ETHANOL

Mobility The product is soluble in water.

METHANOL

Mobility No data available.

Other adverse effects

Other adverse effects None known.

Ecological information on ingredients.

METHANOL

Other adverse effects None known.

13. Disposal considerations

Waste treatment methods

General information

The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods

Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

14. Transport information

UN Number

UN No. (IMDG) 1950

UN No. (ICAO) 1950

UN proper shipping name

SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

Proper shipping name (TDG) LIMITED QUANTITY

Proper shipping name (IMDG) UN1950 AEROSOLS, NON-FLAMMABLE, 2.2, LIMITED QUANTITY

Proper shipping name (ICAO) UN1950 AEROSOLS, NON-FLAMMABLE, 2.2, LIMITED QUANTITY

Proper shipping name (DOT) LIMITED QUANTITY

Transport hazard class(es)

IMDG Class 2.2 LIMITED QUANTITY

ICAO class/division 2.2 LIMITED QUANTITY

ICAO subsidiary risk N/A

Packing group

Packing group (International) No information required.

TDG Packing Group N/A

IMDG packing group N/A

ICAO packing group N/A

DOT packing group N/A

Environmental hazards

Environmentally Hazardous Substance

No.

Special precautions for user

Not applicable. No information required.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable. No information required.

15. Regulatory information

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

None of the ingredients are listed or exempt.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

The following ingredients are listed or exempt:

trans-1,2-DICHLOROETHYLENE

Final CERCLA RQ: 1000(454) pounds (Kilograms)

ISOBUTYL METHYL KETONE

Final CERCLA RQ: 5000(2270) pounds (Kilograms)

ETHYL ACETATE

Final CERCLA RQ: 5000(2270) pounds (Kilograms)

METHANOL

Final CERCLA RQ: 5000(2270) pounds (Kilograms)

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed or exempt.

SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

SARA 313 Emission Reporting

The following ingredients are listed or exempt:

ISOBUTYL METHYL KETONE

1.0 %

METHANOL

1.0 %

CAA Accidental Release Prevention

None of the ingredients are listed or exempt.

FDA - Essential Chemical

None of the ingredients are listed or exempt.

FDA - Precursor Chemical

None of the ingredients are listed or exempt.

SARA (311/312) Hazard Categories

None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals

None of the ingredients are listed or exempt.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

The following ingredients are listed or exempt:

ISOBUTYL METHYL KETONE

Carcinogen and developmental toxin.

METHANOL

Developmental toxin.

California Air Toxics "Hot Spots" (A-I)

The following ingredients are listed or exempt:

ISOBUTYL METHYL KETONE

METHANOL

California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances

The following ingredients are listed or exempt:

trans-1,2-DICHLOROETHYLENE

ISOBUTYL METHYL KETONE

ETHYL ACETATE

METHANOL

ETHANOL

Massachusetts "Right To Know" List

The following ingredients are listed or exempt:

trans-1,2-DICHLOROETHYLENE

ISOBUTYL METHYL KETONE

SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

ETHYL ACETATE

METHANOL

ETHANOL

Rhode Island "Right To Know" List

The following ingredients are listed or exempt:

ISOBUTYL METHYL KETONE

ETHYL ACETATE

METHANOL

ETHANOL

Minnesota "Right To Know" List

The following ingredients are listed or exempt:

ISOBUTYL METHYL KETONE

ETHYL ACETATE

METHANOL

ETHANOL

New Jersey "Right To Know" List

The following ingredients are listed or exempt:

ISOBUTYL METHYL KETONE

ETHYL ACETATE

METHANOL

ETHANOL

Pennsylvania "Right To Know" List

The following ingredients are listed or exempt:

trans-1,2-DICHLOROETHYLENE

ISOBUTYL METHYL KETONE

ETHYL ACETATE

METHANOL

ETHANOL

Inventories

Canada - DSL/NDSL

DSL

trans-1,2-DICHLOROETHYLENE

1,1,1,2,2,3,4,5,5,5-decafluoropentane

ETHANOL

SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

US - TSCA

All of the ingredients of this product are TSCA listed.

1,1,1,2,2,3,4,5,5,5-DECAFLUOROPENTANE (CAS# 138495-42-8) is controlled by TSCA Section 5, Significant New Use Rule

(SNUR; 40 CFR 721.5645) The approved uses are: precision and general cleaning, carrier fluid, displacement drying, printed circuit board cleaning, particulate removal and film cleaning, process medium, heat transfer fluid (dielectric and non-dielectric), and test fluid. Processors and users of this substance must also comply with the applicable general SNUR requirements set forth in 40 CFR 721 subpart A, including export notification requirements if applicable (40 CFR 721.20), and the applicable record keeping requirements set forth at 40 CFR 721.125.

16. Other information

Abbreviations and acronyms used in the safety data sheet	<p>TDG: The transport of dangerous goods act</p> <p>IATA: International air transport association.</p> <p>ICAO: Technical instructions for the safe transport of dangerous goods by air.</p> <p>IMDG: International maritime dangerous goods.</p> <p>CAS: Chemical abstracts service.</p> <p>ATE: Acute toxicity estimate.</p> <p>LC₅₀: Lethal concentration to 50 % of a test population.</p> <p>LD₅₀: Lethal dose to 50% of a test population (median lethal dose).</p> <p>EC₅₀: 50% of maximal effective concentration.</p> <p>PBT: Persistent, bioaccumulative and toxic substance.</p> <p>vPvB: Very persistent and very bioaccumulative.</p>
Classification abbreviations and acronyms	<p>Acute Tox. = Acute toxicity</p> <p>Aquatic Chronic = Hazardous to the aquatic environment (chronic)</p>
Training advice	Only trained personnel should use this material.
Revision date	5/25/2021
Revision	64
Supersedes date	5/25/2021
SDS No.	AEROSOL - SPR
Hazard statements in full	<p>H225 Highly flammable liquid and vapor.</p> <p>H280 Contains gas under pressure; may explode if heated.</p> <p>H301 Toxic if swallowed.</p> <p>H311 Toxic in contact with skin.</p> <p>H319 Causes serious eye irritation.</p> <p>H331 Toxic if inhaled.</p> <p>H332 Harmful if inhaled.</p> <p>H335 May cause respiratory irritation.</p> <p>H336 May cause drowsiness or dizziness.</p> <p>H351 Suspected of causing cancer.</p> <p>H360 May damage fertility or the unborn child.</p> <p>H370 Causes damage to organs .</p> <p>USH03 May displace oxygen and cause rapid suffocation</p>

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.