



SAFETY DATA SHEET

VDX DRY LUBRICANT SPRAY, AEROSOL

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name VDX DRY LUBRICANT SPRAY, AEROSOL

Product number MCC-VDX, MCC-VDX127

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Lubricant.

1.3. Details of the supplier of the safety data sheet

Supplier MICROCARE EUROPE BVBA
 VEKESTRAAT 29 B11
 INDUSTRIEZONE 'T SAS
 1910 KAMPENHOUT, Belgium
 Phone +32.2.251.95.05
 Fax +32.2.400.96.39

Manufacturer MICROCARE CORPORATION
 595 John Downey Drive
 New Britain, CT 06051
 United States of America
 CAGE: OATV9
 Tel: +1 860-827-0626
 Fax: +1 860-827-8105
 techsupport@microcare.com

1.4. Emergency telephone number

Emergency telephone CHEMTREC UK (London) +(44)-870-8200418 +1 703-741-5970 (from anywhere in the world)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Aerosol 3 - H229

Health hazards Not Classified

Environmental hazards Not Classified

Human health Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Mild dermatitis, allergic skin rash.

Physicochemical Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers. Not considered to be a significant hazard due to the small quantities used. Gas or vapour displaces oxygen available for breathing (asphyxiant).

2.2. Label elements

VDX DRY LUBRICANT SPRAY, AEROSOL

Signal word	Warning
Hazard statements	H229 Pressurised container: may burst if heated
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211 Do not spray on an open flame or other ignition source. P251 Do not pierce or burn, even after use. P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. P501 Dispose of contents/ container in accordance with local regulations.
Supplemental label information	EUH210 Safety data sheet available on request. RCH001a For use in industrial installations only.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

HFC-134a Tetrafluoroethane 60-100% CAS number: 811-97-2 EC number: 212-377-0 REACH registration number: 05-2114285300-58-0000
Classification Press. Gas, Liquefied - H280
PROPAN-2-OL 1-5% CAS number: 67-63-0 EC number: 200-661-7 REACH registration number: 05-2114285306-46-0000
Classification Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT SE 3 - H336
Poly-tfe, omega-hydro-alpha-(methylcyclohexyl) 1-5% CAS number: 65530-85-0
Classification Not Classified

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

Composition comments The data shown are in accordance with the latest EC Directives.

Composition

SECTION 4: First aid measures

4.1. Description of first aid measures

General information Never give anything by mouth to an unconscious person. Do not induce vomiting. Place unconscious person on the side in the recovery position and ensure breathing can take place. If breathing stops, provide artificial respiration. Consult a physician for specific advice.

VDX DRY LUBRICANT SPRAY, AEROSOL

Inhalation	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention.
Ingestion	Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Get medical attention.
Skin contact	Remove contaminated clothing and rinse skin thoroughly with water.
Eye contact	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Consult a physician for specific advice.

4.2. 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	Coughing, chest tightness, feeling of chest pressure. Vapours in high concentrations are anaesthetic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Central nervous system depression.
Ingestion	Contact with liquid form may cause frostbite. May cause nausea, headache, dizziness and intoxication.
Skin contact	Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Contact with liquid form may cause frostbite.
Eye contact	Severe irritation, burning and tearing. Irritation and redness, followed by blurred vision.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	No specific recommendations. If in doubt, get medical attention promptly.
-----------------------------	---

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.
-------------------------------------	---

5.2. Special hazards arising from the substance or mixture

Specific hazards	Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapours. Aerosol containers can explode when heated, due to excessive pressure build-up.
-------------------------	--

5.3. Advice for firefighters

Protective actions during firefighting	Move containers from fire area if it can be done without risk. Bursting aerosol containers may be propelled from a fire at high speed.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Warn everybody of potential hazards and evacuate if necessary. Provide adequate ventilation. Avoid inhalation of vapours. Use approved respirator if air contamination is above an acceptable level.
-----------------------------	--

6.2. Environmental precautions

VDX DRY LUBRICANT SPRAY, AEROSOL

Environmental precautions Contain spillage with sand, earth or other suitable non-combustible material. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Provide adequate ventilation. Contain spillage with sand, earth or other suitable non-combustible material. Avoid the spillage or runoff entering drains, sewers or watercourses. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Absorb spillage with non-combustible, absorbent material. Collect and place in suitable waste disposal containers and seal securely.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Provide adequate ventilation. Avoid inhalation of vapours/spray and contact with skin and eyes. In case of spills, beware of slippery floors and surfaces. Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapours. Keep out of the reach of children.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

Usage description Lubricant.

Reference to other sections. Store away from incompatible materials (see Section 10).

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

HFC-134a Tetrafluoroethane

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 4240 mg/m³

PROPAN-2-OL

Long-term exposure limit (8-hour TWA): WEL 400 ppm 999 mg/m³

Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m³

WEL = Workplace Exposure Limit

Additional Occupational Exposure Limits

Ingredient comments WEL = Workplace Exposure Limits

8.2. Exposure controls

Protective equipment



VDX DRY LUBRICANT SPRAY, AEROSOL

Appropriate engineering controls	No specific ventilation requirements. This product must not be handled in a confined space without adequate ventilation.
Eye/face protection	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. It is recommended that gloves are made of the following material: Nitrile rubber. Polyvinyl alcohol (PVA). Viton rubber (fluoro rubber).
Other skin and body protection	Wear suitable protective clothing as protection against splashing or contamination. Wear apron or protective clothing in case of contact.
Hygiene measures	No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products. When using do not eat, drink or smoke.
Respiratory protection	Considering the size of the packaging, the risk is regarded as minimal. Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers. In confined or poorly-ventilated spaces, a supplied-air respirator must be worn. Wear self-contained breathing apparatus with full facepiece.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Aerosol.
Colour	White/off-white. Waxy solid.
Odour	Slight alcoholic.
Odour threshold	No information available.
pH	No information available.
Melting point	No information available.
Initial boiling point and range	-26.5°C/-15.7°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	Not determined.
Other flammability	The product is not flammable.
Vapour pressure	663 kPa @ 25°C
Vapour density	3.18 @ 25 (C) / 77 (F)
Relative density	No information available.
Bulk density	Not applicable.
Solubility(ies)	Slightly soluble in water.
Partition coefficient	No information available.
Auto-ignition temperature	No information available.

VDX DRY LUBRICANT SPRAY, AEROSOL

Decomposition Temperature	No information available.
Viscosity	No information available.
Comments	Aerosol.
9.2. Other information	
Refractive index	No information available.
Particle size	1-15 micron
Molecular weight	No information available.
Volatility	98.5%
Saturation concentration	No information available.
Critical temperature	No information available.
UDF Phrase 1	The product is not flammable.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapours.

10.5. Incompatible materials

Materials to avoid Alkali metals. Alkaline earth metals. Powdered metal.

10.6. Hazardous decomposition products

Hazardous decomposition products Heating may generate the following products: Toxic and corrosive gases or vapours. Halogenated hydrocarbons. Hydrogen fluoride (HF). Carbon dioxide (CO₂). Carbon monoxide (CO).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Other health effects There is no evidence that the product can cause cancer.

Inhalation Vapours may irritate throat/respiratory system. A single exposure may cause the following adverse effects: Coughing. Difficulty in breathing.

Ingestion May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.

Skin contact Product has a defatting effect on skin. May cause allergic contact eczema.

Eye contact May cause temporary eye irritation.

VDX DRY LUBRICANT SPRAY, AEROSOL

Medical symptoms Gas or vapour in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Headache. Fatigue. Nausea, vomiting.

Toxicological information on ingredients.

HFC-134a Tetrafluoroethane

Other health effects There is no evidence that the product can cause cancer.

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ gases ppmV) 567,000.0

Species Rat

ATE inhalation (gases ppm) 567,000.0

PROPAN-2-OL

Carcinogenicity

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

NTP carcinogenicity Not listed.

OSHA Carcinogenicity Not listed.

SECTION 12: Ecological Information

Ecotoxicity The product contains a substance or substances that will contribute to global warming (greenhouse effect).

12.1. Toxicity

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

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

Ecological information on ingredients.

HFC-134a Tetrafluoroethane

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

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

PROPAN-2-OL

Acute toxicity - fish LC₅₀, 96 hours: 9,640 mg/l, Algae

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 5102 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC₅₀, 72 hours: >2,000 mg/l, Fish

12.2. Persistence and degradability

Persistence and degradability The product is not expected to be biodegradable.

12.3. Bioaccumulative potential

VDX DRY LUBRICANT SPRAY, AEROSOL

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient No information available.

Ecological information on ingredients.

HFC-134a Tetrafluoroethane

Partition coefficient Pow: 1.06

PROPAN-2-OL

Partition coefficient : 0.05

12.4. Mobility in soil

Mobility The product contains volatile substances which may spread in the atmosphere.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects The product contains a substance or substances that will contribute to global warming (greenhouse effect).

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Reuse or recycle products wherever possible. Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Empty containers must not be punctured or incinerated because of the risk of an explosion. Aerosol containers can explode when heated, due to excessive pressure build-up. Reuse or recycle products wherever possible.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) NA

UN No. (IMDG) UN1950

UN No. (ICAO) UN1950

UN No. (ADN) NA

14.2. UN proper shipping name

Proper shipping name (ADR/RID) 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 (ADN) LIMITED QUANTITY

14.3. Transport hazard class(es)

VDX DRY LUBRICANT SPRAY, AEROSOL

IMDG class 2.2 LIMITED QUANTITY

ICAO class/division 2.2 LIMITED QUANTITY

ICAO subsidiary risk N/A

14.4. Packing group

ADR/RID packing group N/A

IMDG packing group N/A

ICAO packing group N/A

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

EmS F-C, S-V

Emergency Action Code N/A

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Not relevant. No information required.

Annex II of MARPOL 73/78

and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations The Aerosol Dispensers Regulations 2009 (SI 2009 No. 2824).

EU legislation Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

US - TSCA

Yes

SECTION 16: Other information

Revision comments NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date 11/04/2017

Revision 32

Supersedes date 11/04/2017

SDS number AEROSOL - VDX

SDS status Approved.

VDX DRY LUBRICANT SPRAY, AEROSOL

Hazard statements in full

H225 Highly flammable liquid and vapour.

H229 Pressurised container: may burst if heated

H280 Contains gas under pressure; may explode if heated.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

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.