



SAFETY DATA SHEET

VDX DRY LUBRICANT SPRAY, AEROSOL

According to the Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013, as amended.

SECTION 1: identification of the hazardous chemical and of the supplier

Product identifier

Product name VDX DRY LUBRICANT SPRAY, AEROSOL

Product number MCC-VDX

Recommended use of the substance or mixture and restrictions on use

Identified uses Lubricant.

Uses advised against No specific uses advised against are identified.

Details of the supplier of the safety data sheet

Supplier MICROCARE ASIA PTE LTD
102E, Pasir Panjang Road,
Citilink, #05-06,
Singapore 118529
(65) 6271.0182
techsupport@microcare.com

Emergency telephone number

Emergency telephone INFOTRAC +65 3163 5349 (SINGAPORE)
1-352-323-3500 (from anywhere in the world)

SECTION 2: Hazard identification

Classification of the substance or mixture

Classification

Physical hazards Aerosol 1 - H222, H229

Health hazards Not Classified

Environmental hazards Not Classified

Label elements

Pictogram



Signal word Danger

Hazard statements NC Not Classified
H229 Pressurised container: may burst if heated.

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Precautionary statements

P210 Keep away from heat/ sparks/ open flames /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.
 P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50oC/122oF.
 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.

Other hazards

This product does not contain any substances classified as PBT or vPvB (persistent, bioaccumulative and toxic, or very persistent and very bioaccumulative).

SECTION 3: Composition and information of the ingredients of the hazardous chemical

Mixtures

HFC-134a Tetrafluoroethane	96%
CAS number: 811-97-2	
Classification	
Press. Gas, Liquefied - H280	
PROPAN-2-OL	3%
CAS number: 67-63-0	
Classification	
Flam. Liq. 2 - H225	
Eye Irrit. 2 - H319	
STOT SE 3 - H336	
Poly-tfe, omega-hydro-alpha-(methylcyclohexyl)	1%
CAS number: 65530-85-0	
Classification	
Not Classified	

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

Composition comments

The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of CFR 1900.1200

Composition

SECTION 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. Loosen tight clothing such as collar, tie or belt. Get medical attention if symptoms are severe or persist.

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.

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Skin contact	Rinse with water.
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	Spray/mists may cause respiratory tract irritation.
Ingestion	Due to the physical nature of this product, it is unlikely that ingestion will occur.
Skin contact	Repeated exposure may cause skin dryness or cracking.
Eye contact	May be slightly irritating to eyes. May cause discomfort.

Indication of any immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.
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SECTION 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. Bursting aerosol containers may be propelled from a fire at high speed. If aerosol cans are ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

Advice for fire-fighters

Protective actions during firefighting	Avoid breathing fire gases or vapours. Evacuate area. 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 vapours and protect men stopping the leak. 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. Fire-fighter's clothing will provide a basic level of protection for chemical incidents.

SECTION 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. Evacuate area. Risk of explosion.
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Environmental precautions

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

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. Eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage. Under normal conditions of handling and storage, spillages from aerosol containers are unlikely. If aerosol cans are ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant. Small Spillages: Wipe up with an absorbent cloth and dispose of waste safely. Large Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.

Reference to other sections

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.

SECTION 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. Avoid exposing aerosol containers to high temperatures or direct sunlight. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Spray will evaporate and cool rapidly and may cause frostbite or cold burns if in contact with skin. Avoid contact with eyes. Avoid inhalation of vapours and spray/mists.

Advice on general occupational hygiene Wash promptly if skin becomes contaminated. Take off contaminated clothing. 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. Protect from sunlight. Do not store near heat sources or expose to high temperatures. Do not expose to temperatures exceeding 50°C/122°F.

Storage class Chemical storage.

Specific end use(s)

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

Usage description Lubricant.

SECTION 8: Exposure controls and personal protection

Control parameters

Occupational exposure limits

PROPAN-2-OL

Eight-hour time-weighted average: PEL 400 ppm 983 mg/m³

Permissible exposure limit (PEL)

Exposure controls

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Protective equipment



Appropriate engineering controls

Provide adequate ventilation. 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.

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. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges suitable for intended use should be used. Full face mask respirators with replaceable filter cartridges suitable for intended use should be used. Half mask and quarter mask respirators with replaceable filter cartridges suitable for intended use should be used.

Environmental exposure controls

Keep container tightly sealed when not in use.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Aerosol.
Colour	White/off-white. Waxy solid.
Odour	Slight alcoholic.
Initial boiling point and range	-26.5°C/-15.7°F @ 101.3 kPa
Flash point	The product is not flammable.
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.
Solubility(ies)	Slightly soluble in water.
Comments	Aerosol.
Global Warming Potential (GWP)	
Surface tension	
Particle size	1-15 micron

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Volatility 98.5%

Heat of vaporization (at boiling point), cal/g (Btu/lb)

SECTION 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	Avoid exposing aerosol containers to high temperatures or direct sunlight. Pressurised container: may burst if heated
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: Harmful gases or vapours.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity - oral

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

Acute toxicity - dermal

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

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

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

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

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

IARC carcinogenicity

Contains a substance which may be potentially carcinogenic. IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity

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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.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

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

Spray/mists may cause respiratory tract irritation.

Ingestion

Due to the physical nature of this product, it is unlikely that ingestion will occur.

Skin contact

Repeated exposure may cause skin dryness or cracking.

Eye contact

May be slightly irritating to eyes. May cause discomfort.

Route of entry

Ingestion Inhalation Skin and/or eye contact

Target organs

No specific target organs known.

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 ppmV) 567,000.0

Inhalation Vapours 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.

Eye contact May cause temporary eye irritation.

PROPAN-2-OL

Carcinogenicity

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

NTP carcinogenicity Not listed.

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SECTION 12: Ecological Information

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

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

Acute aquatic toxicity

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

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

Ecological information on ingredients

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

PROPAN-2-OL

Acute aquatic toxicity

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

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

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

Persistence and degradability

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

Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Ecological information on ingredients

HFC-134a Tetrafluoroethane

Partition coefficient Pow: 1.06

PROPAN-2-OL

Partition coefficient : 0.05

Mobility in soil

Mobility The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.

Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal information

Waste treatment methods

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General information	The generation of waste should be minimised 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. Empty containers must not be punctured or incinerated because of the risk of an explosion. 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, labelled with their contents.

SECTION 14: Transportation information

UN number

UN No. (IMDG) 1950

UN No. (ICAO) 1950

UN proper shipping name

Proper shipping name (Road/Rail) 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

Transport hazard class(es)

IMDG class 2.2 LIMITED QUANTITY

ICAO class/division 2.2 LIMITED QUANTITY

Packing group

Environmental hazards

Special precautions for user

Not applicable.

EmS F-C, S-V

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

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the substance or mixture

SECTION 16: Other information

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Abbreviations and acronyms used in the safety data sheet

IATA: International air transport association.
ICAO: Technical instructions for the safe transport of dangerous goods by air.
IMDG: International maritime dangerous goods.
CAS: Chemical abstracts service.
ATE: Acute toxicity estimate.
LC₅₀: Lethal concentration to 50 % of a test population.
LD₅₀: Lethal dose to 50% of a test population (median lethal dose).
EC₅₀: 50% of maximal effective concentration.
PBT: Persistent, bioaccumulative and toxic substance.
vPvB: Very persistent and very bioaccumulative.

Classification abbreviations and acronyms	Aerosol = Aerosol
Training advice	Only trained personnel should use this material.
Revision date	24/6/2021
Revision	41
Supersedes date	3/6/2021
SDS number	AEROSOL - VDX
SDS status	Approved.
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.