

Revision Date 07/31/2013
Revision 10
Supersedes Date 05/06/2013



SAFETY DATA SHEET

PW2 LEAD-FREE FLUX REMOVER - POWERCLEAN, AEROSOL

1. IDENTIFICATION

Product Name PW2 LEAD-FREE FLUX REMOVER - POWERCLEAN, AEROSOL
Product No. #MCC-PW210A, #MCC-PW2101, #MCC-PW2105, #MCC-PW2106
Synonyms, Trade Names "PW2 - POWERCLEAN II DEFLUXER"
Identification No. UN1950
Identified uses Cleaning agent.
Supplier MicroCare Corporation
 595 John Downey Drive
 New Britain, CT 06019
 United States of America
 Toll Free: 1-800-638-0125
 Tel: 1-860-827-0626
 Web: www.MicroCare.com
 email: techsupport@microcare.com

www.MicroCare.com

Emergency Telephone CHEMTREC (800) 424-9300

2. HAZARD(S) IDENTIFICATION

EMERGENCY OVERVIEW

Colourless liquid. Slight odor. Ether. This product is not flammable. Avoid contact with eyes and prolonged skin contact. Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping.

Appearance Clear liquid. Aerosol.
Color Colourless.
Odor Slight odor. Ether
GHS Pictogram



Signal Word Warning

Hazard Statements

H332 Harmful if inhaled.
 H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements

P102 Keep out of reach of children.
 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+412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.
 P501 Dispose of contents/container in accordance with local regulations.

Contains trans-DICHLOROETHYLENE

GHS Classification

Physical and Chemical Hazards Not classified.

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Human health
Environment

Acute Tox. 4 - H332
Aquatic Chronic 3 - H412

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM - WHMIS

WHMIS Label



Compressed Gas.



Materials Causing Other Toxic Effects.

Controlled Product Classification

Canadian WHMIS Classification A B2 WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (CPR SECTION (33)) This product has been classified according to the hazard criteria of the Controlled Product Regulations, and the MSDS contains all required information.

Human Health

Prolonged skin contact may cause redness, irritation and dry skin. Mild dermatitis, allergic skin rash.

Inhalation

Vapors may irritate the respiratory system and cause coughing, asthmatic breathing and breathlessness.

Ingestion

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

Skin Contact

Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

Eye Contact

May cause temporary eye irritation.

Medical Symptoms

High concentrations of vapors may irritate respiratory system and lead to headache, fatigue, nausea and vomiting.

Environment

The product contains a substance which is harmful to aquatic organisms and which may cause long term adverse effects in the aquatic environment.

Physical And Chemical Hazards

Vapors are heavier than air and may travel along the floor and in the bottom of containers. Considering the limited amount applied during use and the size of the container, the risk of adverse effects is considered small. Gas or vapor displaces oxygen available for breathing (asphyxiant).

3. COMPOSITION/INFORMATION ON INGREDIENTS

1,1,1,2,3,4,4,5,5,5-decafluoropentane	10-30%
CAS No.: 138495-42-8	EC No.: 420-640-8
GHS Classification Aquatic Chronic 3 - H412	
HFC-134a Tetrafluoroethane	10-30%
CAS No.: 811-97-2	EC No.: 212-377-0
GHS Classification Not classified.	

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trans-DICHLOROETHYLENE	60-90%
CAS No.: 156-60-5	EC No.: 205-860-2
GHS Classification Flam. Liq. 2 - H225; Acute Tox. 4 - H332; Aquatic Chronic 3 - H412	

4. FIRST-AID MEASURES

Description of first aid measures

General Information

NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Place unconscious person on the side in the recovery position and ensure breathing can take place. Perform artificial respiration if breathing has stopped.

Inhalation

Move into fresh air and keep at rest. If respiratory problems, artificial respiration/oxygen.

Ingestion

Do not induce vomiting. Immediately rinse mouth and drink plenty of water (200-300 ml). Consult a physician for specific advice.

Skin Contact

Remove contaminated clothes and rinse skin thoroughly with water.

Eye Contact

Promptly wash eyes with plenty of water while lifting the eye lids. Make sure to remove any contact lenses from the eyes before rinsing. Consult a physician for specific advice.

Most important symptoms and effects, both acute and delayed

General Information

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

Inhalation

Vapors may cause headache, fatigue, dizziness and nausea. Difficulty in breathing. Upper respiratory irritation. Severe irritation in nose and throat.

Ingestion

May cause stomach pain or vomiting. Drowsiness, dizziness, disorientation, vertigo.

Skin Contact

Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping.

Eye Contact

Irritation of eyes and mucous membranes. Irritating and may cause redness and pain.

Indication of any immediate medical attention and special treatment needed

Notes To The Physician

No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

5. FIRE-FIGHTING MEASURES

Flammability Class

This product is not flammable.

Flammability Limit - Lower(%) 5.5

Flammability Limit - Upper(%) 13

Extinguishing Media

This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.

Hazardous combustion products

When heated, toxic and corrosive vapors/gases may be formed. In case of fire, toxic gases (CO, CO₂, NO_x) may be formed.

Unusual Fire & Explosion Hazards

Aerosol containers can explode when heated, due to excessive pressure build-up.

Specific Hazards

Avoid contact with naked flames and hot surfaces as corrosive and toxic decomposition products can be formed.

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Special Fire Fighting Procedures

Move container from fire area if it can be done without risk. Water spray should be used to cool containers.

Protective Equipment For Fire-Fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Warn everybody of potential hazards and evacuate if necessary. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level.

Environmental Precautions

Contain spillages with sand, earth or any suitable adsorbent material. Avoid release to the environment.

Spill Clean Up Methods

Wear necessary protective equipment. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate.

Reference to other sections

See section 11 for more detailed information on health effects and symptoms.

7. HANDLING AND STORAGE

Handling

Provide good ventilation. Avoid inhalation of vapors/spray and contact with skin and eyes. Avoid contact with naked flames and hot surfaces as corrosive and toxic decomposition products can be formed.

Storage

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENT	STD	TWA (8-hrs)	STEL (15 min)	Notes
trans-DICHLOROETHYLENE	ACGIH	200 ppm		

ACGIH=American Conference of Governmental Industrial Hygienists.

Protective Equipment



Engineering Measures

No specific ventilation requirements noted, except this product must not be used in a confined space without good ventilation.

Respiratory Equipment

Vapors are heavier than air and may travel along the floor and in the bottom of containers. At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. Self-contained breathing apparatus with full facepiece.

Hand Protection

For prolonged or repeated skin contact use suitable protective gloves.

Eye Protection

Wear approved, tight fitting safety glasses where splashing is probable.

Other Protection

Wear suitable protective clothing as protection against splashing or contamination.

Hygiene Measures

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. When using do not eat, drink or smoke.

Skin Protection

Wear apron or protective clothing in case of splashes.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear liquid. Aerosol.
Color	Colourless.

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Odor	Slight odor. Ether
Solubility	Slightly soluble in water.
Initial boiling point and boiling range	39 (C) / 102 (F)
Vapor density (air=1)	3.7
Vapor pressure	415 mm Hg 20
Solubility Value (G/100G H2O@20°C)	.3
Flammability Limit - Lower(%)	5.5
Flammability Limit - Upper(%)	13
Other Flammability	
This product is not flammable.	
Volatility Description	Volatile
Volatile By Vol. (%)	100
Flammability	This product is not flammable.

10. STABILITY AND REACTIVITY

Reactivity

Reaction with: Strong alkalis.

Stability

Stable under normal temperature conditions and recommended use.

Hazardous Polymerisation

Will not polymerise.

Conditions To Avoid

Avoid contact with naked flames and hot surfaces as corrosive and toxic decomposition products can be formed.

Materials To Avoid

Alkali metals. Alkali earth metals. Powdered metal.

Hazardous Decomposition Products

When heated, toxic and corrosive vapors/gases may be formed. Halogenated hydrocarbons. Hydrogen fluoride (HF). Carbon dioxide (CO2). Carbon monoxide (CO).

11. TOXICOLOGICAL INFORMATION

Toxicological Information on Ingredients:

trans-DICHLOROETHYLENE (CAS: 156-60-5)

Toxic Dose 1 - LD 50

1235 mg/kg (oral rat)

Toxic Dose 2 - LD 50

>5000 mg/kg (oral-rbt)

Toxic Conc. - LC 50

24100 ppm/4h (inh-rat)

Other Health Effects

This substance has no evidence of carcinogenic properties.

HFC-134a Tetrafluoroethane (CAS: 811-97-2)

Toxic Dose 1 - LD 50

>2085 mg/kg (oral rat)

Other Health Effects

This substance has no evidence of carcinogenic properties.

1,1,1,2,3,4,4,5,5,5-decafluoropentane (CAS: 138495-42-8)

Toxic Dose 1 - LD 50

>5, 000 mg/kg (oral rat)

Toxic Conc. - LC 50

11, 100 ppm/4h (inh-rat)

12. ECOLOGICAL INFORMATION

Ecotoxicity

Dangerous for the environment if discharged into watercourses.

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Degradability

The product is not readily biodegradable.

Bioaccumulative potential

No data available on bioaccumulation.

Mobility:

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

Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB Substances.

Other adverse effects

The product contains substances which contribute to global warming (greenhouse effect). The product contains a substance which has a photochemical ozone creation potential.

Ecological Information on Ingredients:

trans-DICHLOROETHYLENE (CAS: 156-60-5)

Ecotoxicity

Low acute toxicity to aquatic organisms.

LC 50, 96 Hrs, Fish mg/l

1350

EC 50, 48 Hrs, Daphnia, mg/l

220

Degradability

No data available.

Bioaccumulative potential

Bioaccumulation is unlikely to be significant because of the low water solubility of this product.

Mobility:

The product has poor water-solubility.

HFC-134a Tetrafluoroethane (CAS: 811-97-2)

LC 50, 96 Hrs, Fish mg/l

450

EC 50, 48 Hrs, Daphnia, mg/l

980

1,1,1,2,3,4,4,5,5-decafluoropentane (CAS: 138495-42-8)

Ecotoxicity

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

LC 50, 96 Hrs, Fish mg/l

27.2

Degradability

The product is not expected to be biodegradable.

Bioaccumulative potential

Bioaccumulation is unlikely to be significant because of the low water solubility of this product.

IC 50, 72 Hrs, Algae, mg/l

120

13. DISPOSAL CONSIDERATIONS

Waste Management

Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority.

Disposal Methods

Dispose of waste and residues in accordance with local authority requirements.

14. TRANSPORT INFORMATION

UN No. (DOT/TDG)

UN1950

UN No. (IMDG)

1950

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UN No. (ICAO) 1950
DOT Proper Shipping Name LIMITED QUANTITIES
DOT Proper Shipping Name AEROSOLS
TDG Proper Shipping Name AEROSOLS
IMDG Class 2.2
ICAO Class 2.2
ICAO Subsidiary Risk N/A
Transport Labels



IMDG Pack Group N/A
Air Pack Group N/A

Environmentally Hazardous Substance/Marine Pollutant
No.

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

15. REGULATORY INFORMATION

Regulatory Status (US)

SECTION 313: This product does not contain toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372. TSCA: The ingredients of this product are on the TSCA Inventory.

Regulatory References

29 CFR 1910.1010 Federal Regulations (OSHA Standard).

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

None of the ingredients are listed.

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

The following ingredients are listed.

trans-DICHLOROETHYLENE; 1, 000 lbs (454 Kg)

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed.

SARA 313 Emission Reporting

None of the ingredients are listed.

CAA Accidental Release Prevention

None of the ingredients are listed.

SARA (311/312) Hazard Categories

Acute

OSHA Highly Hazardous Chemicals

None of the ingredients are listed.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

Massachusetts "Right To Know" List

The following ingredients are listed.

trans-DICHLOROETHYLENE

Rhode Island "Right To Know" List

None of the ingredients are listed.

Minnesota "Right To Know" List

The following ingredients are listed.

HFC-134a Tetrafluoroethane

New Jersey "Right To Know" List

None of the ingredients are listed.

Pennsylvania "Right To Know" List

The following ingredients are listed.

trans-DICHLOROETHYLENE

International Inventories

Canada – DSL/NDSL

The following ingredients are listed.

HFC-134a Tetrafluoroethane

trans-DICHLOROETHYLENE

US - TSCA

The following ingredients are listed.

HFC-134a Tetrafluoroethane

trans-DICHLOROETHYLENE

US – TSCA 12(b) Export Notification

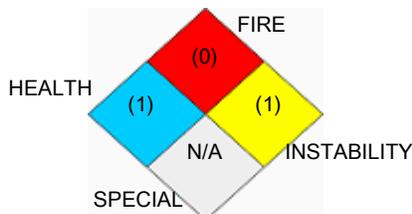
None of the ingredients are listed.

16. OTHER INFORMATION

HAZARDOUS MATERIAL INFORMATION SYSTEM (HMIS)

HEALTH	1
FLAMMABILITY	0
PHYSICAL	1
PERSONAL PROTECTION	A

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)



Revision Comments

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

Revision Date	07/31/2013
Revision	10
Supersedes Date	05/06/2013
Sds No.	AEROSOL_PW2
Material Safety Data Sheet Status	Approved.
Date	06 May 2013

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Disclaimer

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.