MATERIAL SAFETY DATA SHEET

Finished Product

Date-Issued : 12/23/2002
MSDS Ref. No : 1668-A
Date-Revised : 11/01/2005
Revision No : 5

Contact Cleaner II

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Contact Cleaner II
GENERAL USE: General Purpose Contact Cleaning
PRODUCT DESCRIPTION: Contact Cleaner
PRODUCT CODE: 1668/CAN/EUR-8S, 18S

MANUFACTURER

Techspray, L.P.
1001 N.W. 1st Street
P.O. Box 949
Amarillo, TX 79107
Contact: Chemtrec
Product Stewardship: 1-800-858-4043

24 HR. EMERGENCY TELEPHONE NUMBERS

CHEMTREC (US Transportation) : (800) 424 - 9300
CANUTEC (Canadian Transportation) : (613) 996 - 6666
Emergency Phone : (800) 858 - 4043

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Content	CAS	EINECS
3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	65 - 75	422-56-0	2070169
1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	< 5	507-55-1	2080769
1,1,1,2-Tetrafluoroethane (HFC-134a)	18 - 23	811-97-2	223770
Carbon dioxide	1 - 2	124-38-9	
Acetone	5 - 10	67-64-1	200-662-2

EEC LABEL SYMBOL AND CLASSIFICATION

R20 - Harmful by inhalation.

EEC Harmful - "Xn"

R36/38 - Irritating to eyes and skin.

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3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Transparent, colorless liquid.

IMMEDIATE CONCERNS: Warning! High concentrations of vapor can reduce oxygen available for breathing. Harmful if inhaled. May decompose on contact with flames or extremely hot metal surfaces to produce toxic and corrosive products.

POTENTIAL HEALTH EFFECTS

EYES: Avoid contact with eyes; may cause redness, irritation and conjunctivitis.

SKIN: Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

INGESTION: Ingestion of large amounts may produce abdominal pain, nausea and vomiting. Swallowing small amounts is not likely to produce harmful effects.

INHALATION: High concentrations in immediate area can displace oxygen and can cause dizziness, unconsciousness, and possibly death with longer exposure. Keep people away from such vapors without self-contained breathing apparatus.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Liquid splashed in the eye may cause redness, irritation and conjunctivitis.

SKIN: Prolonged exposure causes redness, pain, drying and cracking of the skin.

INGESTION: For large amounts; abdominal pain, nausea and vomiting.

INHALATION: High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis and loss of consciousness).

ACUTE TOXICITY: Overexposure may cause dizziness and loss of concentration. At higher levels, CNS depression and cardiac arrhythmia may result.

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4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.

SKIN: Immediately flush skin with plenty of water. Remove clothing. Get medical attention immediately. Wash clothing separately before reuse.

INGESTION: If swallowed, gently wipe or rinse the inside of the mouth with water. DO NOT induce vomiting. Sips of water may be given if person is fully conscious. Never give anything by mouth to an unconscious or convulsing person. Immediately contact a poison control center, emergency room or physician as further treatment may be necessary.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

NOTES TO PHYSICIAN: Because of the possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should be used with special caution and only in situations of emergency life support. Treatment of overexposure should be directed at the control of symptoms and the clinical conditions.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: None : . . . . ASTM D-56 (Tag C.C.)

FLAMMABLE LIMITS: NA to NA

EXTINGUISHING MEDIA: Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

FIRE FIGHTING PROCEDURES: Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

FIRE FIGHTING EQUIPMENT: As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic oxides of carbon and corrosive vapors of hydrogen chloride.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Contain spill with dike to prevent entry into sewers.

LARGE SPILL: If this material is released into a work area, evacuate the area immediately.

GENERAL PROCEDURES: Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on adsorbent, such as sawdust or vermiculite, and sweep into closed containers for disposal. After all visible traces, including vapors, have been removed thoroughly wet vacuum the area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth, gravel, etc. as necessary and place in closed containers for disposal.

SPECIAL PROTECTIVE EQUIPMENT: Only personnel equipped with proper respiratory and skin/eye protection should be permitted in area. See Section 8 for details.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Use only in a well ventilated area.

HANDLING: Use with sufficient ventilation to keep employee exposure below recommended limits. Provide adequate ventilation for storage, handling and use, especially for enclosed or low spaces. Avoid contact of liquid with eyes and prolonged skin exposure. Do not allow product to contact open flame or electrical heating elements because dangerous decomposition products may form.

STORAGE: Store in a cool, well-ventilated area of low fire risk. Storage in subsurface locations should be avoided. If container temperature exceeds boiling point, cool the container before opening.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

		EXPOSURE LIMITS					
Chemical Name		**OSHA PEL**		**ACGIH TLV**		**Supplier OEL**	
		ppm	**mg/m^3**	**ppm**	**mg/m^3**	**ppm**	**mg/m^3**
3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	**TWA**	[1]				50* ppm[2]	
1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	**TWA**					400* ppm	
1,1,1,2-Tetrafluoroethane (HFC-134a)	**TWA**	NE		NE		1,000 ppm	
Acetone	**TWA**	750 ppm[3]	1800 mg/m3	750 ppm	1780 mg/m3	NL ppm	NL mg/m3
	STEL	1000 ppm	2400 mg/m3	1000 ppm	2380 mg/m3	NL ppm	NL mg/m3

OSHA TABLE COMMENTS:
1. NOT ESTABLISHED
2. * (AEL)=Acceptable Exposure Limit as established by the manufacture
3. NL = Not Listed

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

SKIN: The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Viton, Solvex, Butyl, Buna, Neoprene.

RESPIRATORY: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

OTHER USE PRECAUTIONS: Emergency shower and eyewash facility should be in close proximity.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid
ODOR: Faint ethereal odor
APPEARANCE: Clear, Colorless liquid
pH: 6.9

PERCENT VOLATILE: 100 at 20°C (68°F)
VAPOR PRESSURE: < 0.001 mmHg@20C (VOC Composite Vapor Pressure)
VAPOR DENSITY: 7 (Air=1)
BOILING POINT: 54°C (129°F)
SOLUBILITY IN WATER: Insoluble
EVAPORATION RATE: > 1 (n-Butyl Acetate=1)
DENSITY: 1.49 at 25°C
SPECIFIC GRAVITY: Not Available
(VOC): < 5 g/L (non-exempt VOC)

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Stable. However, may decompose if heated.

STABILITY: Stable.

POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: Whem exposed to high temperatures or flames this product may form hydrochloric and hydrofluoric acids - possibly carbonyl halides.

INCOMPATIBLE MATERIALS: Oxidizing agents, alkalies and bases.

11. TOXICOLOGICAL INFORMATION

INGREDIENT(S)	ORAL LD_{50} (rat)	DERMAL LD_{50} (rabbit)	INHALATION LC_{50} (rat)
3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	> 5000 - mg/kg	> 2000 - mg/kg	> 37300 - ppm
1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	> 5000 - mg/kg	> 2000 - mg/kg	> 36800 - ppm
1,1,1,2-Tetrafluoroethane (HFC-134a)			500000 - ppm
Acetone	5800 - mg/kg	20 - g/kg	50100 - ppm

ACUTE

EYES: Moderately to severely irritating

DERMAL LD_{50}: Mildly to moderately irritating.

ORAL LD_{50}: Slight to very low toxicity.

INHALATION LC_{50}: Slight to very low toxicity.

TERATOGENIC EFFECTS: Test results indicate this compound/mixture is not teratogenic.

GENERAL COMMENTS: Data from acute toxicity studies indicate that HCFC-225ca and HCFC-225cb have very low acute toxicity. Neither isomer causes eye irritation nor dermal toxicity in standardized tests; skin application of both isomers at high doses (2,000 mg/kg body weight) produces no adverse effects. Therefore, the dermal LD50s are greater than 2,000 mg/kg body weight. Oral administration of either isomer at high doses (5,000 mg/kg body weight) does not cause any mortality and the oral LD50s are greater than 5,000 mg/kg body weight.

Both isomers also have very low acute inhalation toxicity as measured by the concentration that cause 50% mortality in experimental animals. In 28-day inhalation studies with rat, the activity and responsiveness of the animals was reduced at 5,000 ppm or greater for each isomer. Toxicity was otherwise confined to the liver; liver enlargement and induction of peroxisomes was seen following treatment with either of the isomers. HCFC-225ca was more potent than HCFC-225cb in eliciting these lever effects. In a 90-day study of HCFC-225ca/HCFC-225cb mixture (45/55%) with rat, toxic effects were observed in the liver; liver enlargement and induction of peroxisomes. In a 28-day study with marmoset, exposure to HCFC-225ca at 1,000 ppm caused effects on the liver, such as slight fat deposition associated with changes in serum biochemical parameters. In the same study, exposure to HCFC-225cb at 5,000 ppm caused somnolence during exposure and an increase of cytochrome P-450, indicative of an adaptive response to HCFC-225cb. However, no liver enlargement was seen and virtually no peroxisome induction was observed in either isomer.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: There is limited information available on the environmental fate and effects of this material. The primary environmental concern for release is the impact on aquatic and terrestrial species. Due care should be taken to avoid the accidental release of this material into the environment.

ECOTOXICOLOGICAL INFORMATION: Invertebrate toxicity: LC50 (30 min) Photobacterium phosphoreum = 1540 ppm Microtoxicity test.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Recover by distillation or remove to permitted waste disposal facility. Comply with Federal, State and Local regulations.

FOR LARGE SPILLS: Contaminated sawdust, vermiculite, or porous surfaces must be disposed of in a permitted hazardous waste management facility. Recovered liquids may be reprocessed or incinerated or must be treated in a permitted hazardous waste management facility.

GENERAL COMMENTS: Dispose of in a manner consistent with federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)
PROPER SHIPPING NAME: CONSUMER COMMODITY ORM-D
UN/NA NUMBER: N/A
PACKING GROUP: N/A

ROAD AND RAIL (ADR/RID):
KEMLER NUMBER: UN1950
HAZARD CLASS: 2.2

AIR (ICAO/IATA)
PROPER SHIPPING NAME: CONSUMER COMMODITY ID8000
UN/NA NUMBER: N/A
PACKING GROUP: N/A

NOTE: Domestic shipments only. When shipping International contact TechSpray shipping department.

VESSEL (IMO/IMDG)

PROPER SHIPPING NAME: AEROSOLS IN LIMITED QUANTITIES OF CLASS 2
UN/NA NUMBER: 1950
NOTE: Page 2102

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15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: IMMEDIATE / DELAYED

313 REPORTABLE INGREDIENTS: Acetone (CAS# 67-67-1)

TITLE III NOTES: Not listed as an Extremely Hazardous Substance.

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: Acetone (67-64-1)

CERCLA RQ: 5000 lbs

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: This product is listed on the TSCA Inventory.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

29 CFR 1910.119---PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: None of the chemicals in this product are considered highly hazardous by OSHA.

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

WHMIS CLASS: Class A, Class D2B.

EUROPEAN COMMUNITY

EEC LABEL SYMBOL AND CLASSIFICATION

R20 - Harmful by inhalation.

EEC Harmful - "Xn"

R36/38 - Irritating to eyes and skin.

CALIFORNIA PROPOSITION 65: This product does not contain any chemicals known to the State of California to cause cancer.

COMMENTS: WARNING: Contains 1,1,1,2-tetrafluoroethane (HFC-134a), a greenhouse gas which may contribute to global warming.

16. OTHER INFORMATION

APPROVED BY: Pierce A. Pillon **TITLE:** Chemist

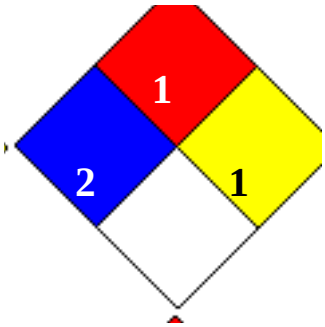
PREPARED BY: Steve Cook

REVISION SUMMARY Revision #: 5 This MSDS replaces the December 03, 2004 MSDS. Any changes in information are as follows: In Section 11 Skin Effects In Section 13 RCRA/USPA Waste Information In Section 15 SARA 313 Reportable Ingredients CERCLA Regulatory CERCLA RQ OSHA 29 CFR

HMIS RATING

HEALTH:	**2**
FLAMMABILITY:	**1**
PHYSICAL HAZARD:	**1**
PERSONAL PROTECTION:	

NFPA CODES



DATA SOURCES: Code of Federal Regulations (CFR) The Sigma-Aldrich Library of Regulatory and Safety Data OSHA Hazard Communication Standard (29CFR1910.1200) Various Federal, State and Local Regulations

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