Product Information

Contact Cleaner II

General Purpose Contact Cleaner

1668

Introduction

Electrical contacts require precision cleaning and degreasing, and Contact Cleaner II is the solvent of choice. Non-flammable and safe on the plastics used in switches and relays, Contact Cleaner II removes oils, greases, silicones, dirt and grime from contacts and pads. Designed for either batch cleaning or hand operation, Contact Cleaner II is the optimum solvent for contacts.

Features / Benefits

Non-Flammable
Safe on Most Plastics
Rapidly Evaporating
Zero Residue
Non-Corrosive
Replacement for CFC-113
Replacement for HCFC-141b
EPA SNAP Approved

Physical Properties	
Boiling Point	54°C / 129°F
Flash Point (TCC)	None
Evaporation Rate	>1
Surface Tension	21
Kauri-Butanol (KB Value)	27.5

Chemical Components

3,3-Dichloro-1,1,1,2,2-pentafluoropropane....	(422-56-0)	25-35%
1,3-Dichloro-1,1,2,2,3-pentafluoropropane....	(507-55-1)	25-35%
Acetone.....	(67-64-1)	1-10%
1,1,1,2-Tetrafluoroethane.....	(811-97-2)	18-23%
Carbon Dioxide (Aerosol Propellant).....	(124-38-9)	1-2%
Nitromethane.....	(75-52-5)	< .5%

Plastic Compatibility

Material	Compatibility	Material	Compatibility
ABS	Not Compatible	**PMMA**	Not Compatible
Nylon 6	Excellent	**POM**	Excellent
Lexan	Not Compatible	**PP**	Excellent
HDPE	Excellent	**PS**	Good
LDPE	Excellent	**PTFE**	Excellent
Phenolic	Excellent	**PVC**	Excellent

Environmental Policy

Techspray® is committed to developing products to ensure a safer and cleaner environment. We will continue to meet and sustain the regulations of all federal, state and local government agencies.

Packaging and Availability

Contact Cleaner II may be ordered in the following container sizes:

1668-8S	8 Ounce Aerosol
1668-18S	18 Ounce Aerosol

MATERIAL SAFETY DATA SHEET

Finished Product

MSDS Ref. No : 1668-A

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.

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.

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)

Chemical Name		EXPOSURE LIMITS					
		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)

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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.

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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.

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.