MATERIAL SAFETY DATA SHEET

MSDS-E-DCC-V510

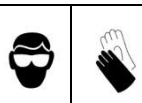
Prepared to OSHA, ACC, ANSI, WHMIS, NOHSC & 2001/58 EC Standards | MSDS Revision: 1.0 | MSDS Revision Date: 09/01/2007

1. PRODUCT IDENTIFICATION

1.1	Product Name:	**DeoxIT® CONTACT CLEANER WASH, DCC-V510, 10 oz.**
1.2	Chemical Name:	See ingredients listed in section 3
1.3	Synonyms:	Flux Wash
1.4	Trade Names:	NA
1.5	Product Use:	Aerosol Electronics Flux Cleaner
1.6	Manufacturer's Name:	CAIG Laboratories, Inc.
1.7	Manufacturer's Address:	12200 Thatcher Court, Poway, CA 92064-6876
1.8	Business Phone:	+1 (800) 224-4123
1.9	Emergency Phone:	**CHEMTREC +1 (703) 527-3887 / +1 (800) 424-9300**
1.10	Other Product Names:	NA

CHEMICAL RESPONSE CARD: 21

RESPONSE TEAM PPE:



WHMIS:

HEALTH:	**1**
FLAMMABILITY:	**3**
REACTIVITY:	**0**
PERSONAL PROTECTION:	**B**

2. HAZARD IDENTIFICATION

2.1 Hazard Identification:

This product is classified as a hazardous substance and as a dangerous good according to the classification criteria of NOHSC and ADG Code (Australia). Warning! Extremely flammable. Contents under pressure. Do not puncture or incinerate. Keep away from heat, sparks, and flame. Use only with adequate ventilation. Keep containers closed when not in use. Gross inhalation over exposure may cause central nervous system depression.

2.2 Routes of Entry:

Inhalation:	**YES**	Absorption:	**YES**	Ingestion:	**YES**

2.3 Effects of Exposure:

EYES: Can cause irritation, tearing, and blurred vision.
SKIN: Can cause minor irritation and burns.
INGESTION: Can cause damage to throat and esophagus. Can cause nausea, vomiting and diarrhea.
INHALATION: Can cause nasal irritation, dizziness, nausea and headache.

2.4 Symptoms of Overexposure:

EYES: Mild irritation, redness, and watering.
SKIN: Contact dermatitis, characterized by localized red or puffy dry skin and itching.
INGESTION: May cause gastro intestinal irritation, nausea, vomiting, and diarrhea.
INHALATION: Upper respiratory irritation, coughing, sneezing, staggering gait, giddiness, drowsiness, slurred speech, nausea, and possible nervous system depression. Gross overexposure by purposely inhaling fumes may cause central nervous system depression or death.

2.5 Acute Health Effects:

EYES: Mild to moderate irritation to eyes.
SKIN: Mild irritation and dermatitis (rash).
INGESTION: May cause gastrointestinal irritation.
INHALATION: May irritate mucous membranes and upper respiratory system irritation and discomfort. Prolonged overexposure may cause central nervous system depression or death.

2.6 Chronic Health Effects:

None reported by the manufacturer.

2.7 Target Organs:

Eyes, Skin, Lungs

NA = Not Available; ND = Not Determined; NE = Not Established; C = Ceiling Limit; See Section 16 for Additional Definitions of Terms Used

NOTE: all WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-2004 format.

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3. COMPOSITION & INGREDIENT INFORMATION

CHEMICAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	EXPOSURE LIMITS IN AIR (mg/m³) ACGIH - ppm TLV	ACGIH - ppm STEL	OSHA - ppm PEL	OSHA - ppm STEL	OSHA - ppm IDLH	OTHER
N-HEPTANE	142-82-5	MI7700000	205-563-8	≤ 60.0	400	500	500	2000	750	
ACETONE	64-64-1	AL3150000	200-662-2	≤ 25.0	500	750	1000	2400	2500	
ETHYL ALCOHOL	64-17-5	KQ6300000	200-578-6	≤ 25.0	1000	1900	1000	1900	3300	
METHYL ALCOHOL	67-56-1	PC1400000	200-659-6	≤ 5.0	200	250	200	260	6000	
CARBON DIOXIDE	124-38-9	FF6400000	204-696-9	≤ 4.0	5000	30000	5000	1500	9000	ASPHYXIANT IRRITANT

4. FIRST AID

4.1 First Aid:

EYES: As a precaution remove contact lenses if worn and flush eyes thoroughly with copious amounts of water for at least 15 minutes, holding eyelid(s) open to ensure complete flushing. If irritation persists, seek immediate medical attention.

SKIN: Remove contaminated clothing. Wash the skin with soap and water. If irritation persists, seek prompt medical attention. Do not wear contaminated clothing until after it has been properly cleaned.

INGESTION: Do not induce vomiting! Call a physician or poison control center for assistance and instructions. Seek immediate medial attention. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.

INHALATION: Remove victim to fresh air at once. If breathing is difficult, provide supplemental oxygen. If breathing has stopped, provide artificial respiration. Seek immediate medical attention. Provide supportive treatment, keeping victim warm and quiet.

4.2 Medical Conditions Aggravated by Exposure:

None reported by the manufacturer.

HEALTH	**1**
FLAMMABILITY	**3**
REACTIVITY	**0**
PROTECTIVE EQUIPMENT	**B**

EYES	SKIN	LUNGS	

5. FIREFIGHTING MEASURES

5.1 Flashpoint & Method:

30 °F, Estimated

5.2 Autoignition Temperature:

ND

5.3 Flammability Limits: Lower Explosive Limit (LEL): **NA** Upper Explosive Limit (UEL): **NA**

5.4 Fire & Explosion Hazards:

Warning! Contents under pressure! Highly flammable liquid. NFPA Level 3 Aerosol.

Closed containers may explode when exposed to extreme heat.

5.5 Extinguishing Methods:

Large fire – Alcohol foam or water fog. Small fire – Dry chemical or carbon dioxide. Use water to cool fire exposed containers. Do not use water in straight streams. Water spray may be ineffective. If water is used, fog nozzles are preferable.

5.6 Firefighting Procedures:

Wear NIOSH/MSHA approved self-contained breathing apparatus and protective clothing. Use a water spray to cool containers involved in fire. Do not use direct water stream. Container storage areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure. Keep containers cool until well after the fire is out to prevent rupture. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway. Avoid breathing vapor or fumes.

6. ACCIDENTAL RELEASE MEASURES

6.1	Spills: Ventilate if in enclosed area. Eliminate all ignition sources. Small Spills: Wipe, scrape or soak up in an inert material like vermiculite, floor absorbent, or other absorbent material and transfer to isolated well ventilated area. Leaking containers should be removed to an isolated well ventilated area and transferred to other suitable container. Do not puncture or incinerate container, contents under pressure. Large Spills: Contain by diking with a non-combustible absorbent inorganic material. Prevent runoff from entering sewers, storm drains, surface water and soil. Transfer to a DOT approved container. Must be in accordance with federal, state and local laws and regulations.

7. HANDLING & STORAGE INFORMATION

7.1	Work & Hygiene Practices: Wash hands thoroughly after using this product and before eating, drinking, or smoking. Remove soiled clothing to prevent prolonged skin contact.
7.2	Storage & Handling: Use and store in a cool, dry, well-ventilated area. Keep away from excessive heat, open flames, sparks, and other possible sources of ignition. Contents under pressure. Do not store at temperatures above 120 °F. Exposure to high temperatures may cause bursting. Do not store in unmarked containers or storage devices. Container is not designed to contain pressure.
7.3	Special Precautions: Empty containers may contain product residues. Do not use pressure to empty container, or it may rupture with explosive force. Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1	Ventilation & Engineering Controls: Use with adequate ventilation (e.g., open doors and windows, local exhaust ventilation). Local exhaust may be necessary to maintain exposures to within applicable limits. Ensure appropriate decontamination equipment is available (e.g., sink, safety shower, eye-wash station). Do not puncture containers.
8.2	Respiratory Protection: None required, when used with adequate ventilation. Local exhaust ventilation or other engineering controls may be required to control airborne levels below the recommended exposure limits. A respiratory protection program that meets ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirators use. Avoid breathing mist and vapors.
8.3	Eye Protection: Safety glasses with side shields or goggles should be used with this product. If splashing is anticipated, splash goggles and a face-shield are recommended. Do not wear contact lenses.
8.4	Hand Protection: Where contact is likely, impervious gloves are recommended. Do not wear rings, watches, or jewelry that could entrap the material against the skin.
8.5	Body Protection: None required under normal use. Avoid prolonged contact with skin and wear long sleeves. A safety shower may be needed for emergency situations.

9. PHYSICAL & CHEMICAL PROPERTIES

9.1	Density:	NA
9.2	Boiling Point:	NA
9.3	Melting Point:	ND
9.4	Evaporation Rate:	NA
9.5	Vapor Pressure:	NA
9.6	Molecular Weight:	NA
9.7	Appearance & Color:	Colorless liquid in aerosol
9.8	Odor Threshold:	Mild alcohol
9.9	Solubility:	NA
9.10	Ph	ND
9.11	Viscosity:	NA
9.12	Other Information: VOC Content	563 g/L

10. STABILITY & REACTIVITY

10.1	Stability: Stable
10.2	Hazardous Decomposition Products: Carbon dioxide, carbon monoxide.
10.3	Hazardous Polymerization: Will not occur.
10.4	Conditions to Avoid: Use or storage near open flames, sparks, high heat (>120 °F) or other heat sources, and proximity to incompatible substances and heavily trafficked areas.
10.5	Incompatible Substances: Oxidizing agents; concentrated Oxygen. Materials to avoid – zinc, copper, tin and alkali metals (sodium, potassium, lithium, etc.).

11. TOXICOLOGICAL INFORMATION

11.1	Toxicity Data: This product has not been tested on animals to obtain toxicological data. There are toxicology data for the components of this product, which are found in the scientific literature. This data has not been presented in this document. Ethyl Alcohol (CAS# 64-17-5) IARC: Group 3 carcinogen	
11.2	Acute Toxicity: See section 2.5	
11.3	Chronic Toxicity: See section 2.6	
11.4	Suspected Carcinogen: This product is not a suspected carcinogen in humans.	
11.5	Reproductive Toxicity: This product is not reported to produce reproductive toxicity in humans.	
	Mutagenicity:	This product is not reported to produce mutagenic effects in humans.
	Embryotoxicity:	This product is not reported to produce embryotoxic effects in humans.
	Teratogenicity:	This product is not reported to produce teratogenic effects in humans.
	Reproductive Toxicity:	This product is not reported to produce reproductive effects in humans.
11.6	Irritancy of Product: See Section 2.3	
11.7	Biological Exposure Indices: NE	
11.8	Physician Recommendations: Treat symptomatically.	

12. ECOLOGICAL INFORMATION

12.1	Environmental Stability: This product will slowly volatilize from soil. Components of this product will slowly decompose into organic compounds.
12.2	Effects on Plants & Animals: There is no specific data available for this product.
12.3	Effects on Aquatic Life: This material should be kept out of sewage and drainage systems and all bodies of water. Releases of large volumes of this product are expected to be harmful or fatal to overexposed aquatic life.

13. DISPOSAL CONSIDERATIONS

13.1	Waste Disposal: Dispose of in accordance with federal, state or local regulations. D001 Ignitable.
13.2	Special Considerations: NA

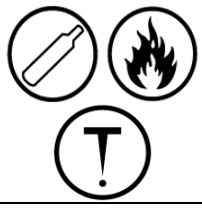
14. TRANSPORTATION INFORMATION

The basic description (ID Number, proper shipping name, hazard class & division, packing group) is shown for each mode of transportation. Additional descriptive information may be required by 49 CFR, IATA/ICAO, IMDG and the CTDGR.

14.1	49 CFR (GND): CONSUMER COMMODITY, ORM-D
14.2	IATA (AIR): ID8000, CONSUMER COMMODITY, 9 (Packing Instructions 910)
14.3	IMDG (OCN): UN1950, AEROSOLS, 2.1, LTD QTY
14.4	TDGR (Canadian GND): MARK PACKAGE "LIMITED QUANTITY" or "QUANTITÉ LIMITÉE" or "LTD QTY" or "QUANT LTÉE"
14.5	ADR/RID (EU): UN1950, AEROSOLS, 2, LTD QTY
14.6	MEXICO (SCT): UN1950, AEROSOLES, 2, CANTIDAD LIMITADA

15. REGULATORY INFORMATION

15.1	SARA Reporting Requirements: This product contains substances that are subject to SARA reporting requirements: N-Heptane (CAS# 142-82-5); Immediate, delayed, fire. Acetone (CAS# 64-17-5); Immediate, fire. Ethanol (CAS# 64-17-5); Acute, chronic, flammable. Methyl alcohol (CAS# 67-56-1); Acute, flammable.
15.2	SARA Threshold Planning Quantity: None of the chemicals in this product have a TPQ.
15.3	TSCA Inventory Status: All chemical substances of this product are listed on the TSCA inventory or are otherwise exempt from inventory status.
15.4	CERCLA Reportable Quantity (RQ): Acetone: 5000 lb final RQ; 2270 kg final RQ Methyl Alcohol: 5000 pounds final RQ; 2270 kg final RQ Ethyl Alcohol: 5000 pounds final RQ; 2270 kg final RQ
15.5	Other Federal Requirements: Clean Air Act: This material contains Methyl alcohol listed as a hazardous air pollutant (HAP). None of the chemicals in this product are listed as Hazardous Substances under the CAA. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors. Clean Water Act: None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA. OSHA: None of the chemicals in this product are considered highly hazardous by OSHA.
15.6	Other Canadian Regulations This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR. The components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the Priorities Substances List.



15. REGULATORY INFORMATION- continued

15.7 State Regulatory Information:

N-Heptane (CAS# 142-82-5), can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, and Massachusetts.

Acetone (CAS# 67-64-1), can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, and Massachusetts.

Ethanol (CAS# 67-56-1), can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, and Massachusetts.

Methyl Alcohol (CAS# 67-56-1), can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, and Massachusetts.

California Prop 65

This product contains Ethyl Alcohol, a chemical known to the state of California to cause birth defects or other reproductive harm.

WGK (Water Danger/Protection)
Ethanol (CAS# 64-17-5): 0
Methyl Alcohol (CAS# 67-56-1): 1

15.8 67/548/EEC (European Union) Requirements:

The primary components of this product are not listed in Annex I of EU Directive 67/548/EEC.

(F) Flammable (Xi) Irritant

R: 11 Highly flammable.
S: 2 Keep out of reach of children
S: 3/7 Keep container closed and dry in a well ventilated space
S: 16 Keep away from sources of ignition – No smoking.
S 36/37 Wear suitable protective clothing and gloves.
S: 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S: 7 Keep containers tightly closed.

16. OTHER INFORMATION

16.1 Other Information:

NA

16.2 Terms & Definitions:

See last page of this MSDS.

16.3 Disclaimer:

This Material Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR §1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of ShipMate's & CAIG Laboratories, Inc.'s knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either expressed or implied, are provided. The information contained herein relates only to the specific product(s). If this product(s) is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.

16.4 Prepared for:

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DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these that are commonly used include the following:

GENERAL INFORMATION:

CAS No.	Chemical Abstract Service Number

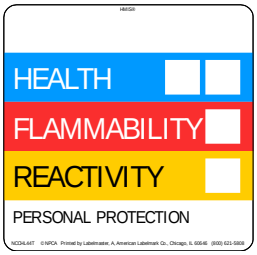
EXPOSURE LIMITS IN AIR:

ACGIH	American Conference on Governmental Industrial Hygienists
TLV	Threshold Limit Value
OSHA	U.S. Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
IDLH	Immediately Dangerous to Life and Health

FIRST AID MEASURES:

CPR	Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body.

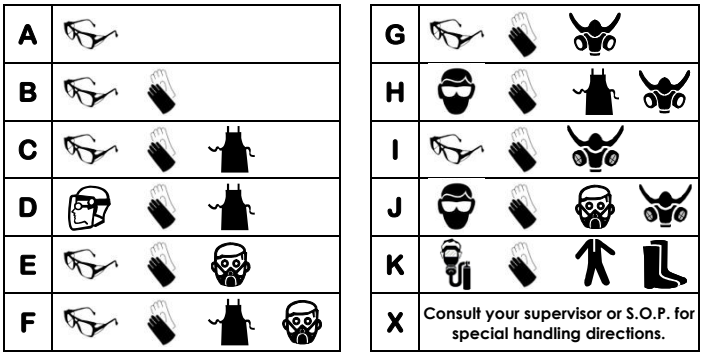
HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS

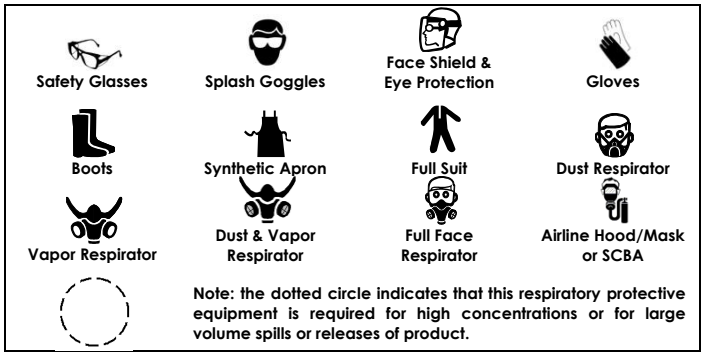


HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	Extreme Hazard

PERSONAL PROTECTION RATINGS:





OTHER STANDARD ABBREVIATIONS:

NA	Not Available
NR	No Results
NE	Not Established
ND	Not Determined
ML	Maximum Limit
SCBA	Self-Contained Breathing Apparatus

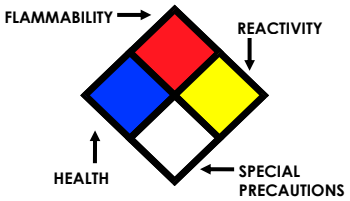
NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

FLAMMABILITY LIMITS IN AIR:

Autoignition Temperature	Minimum temperature required to initiate combustion in air with no other source of ignition
LEL	Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source
UEL	Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source

HAZARD RATINGS:

0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	Extreme Hazard
ACD	Acidic
ALK	Alkaline
COR	Corrosive
W —	Use No Water
OX	Oxidizer



TOXICOLOGICAL INFORMATION:

LD_{50}	Lethal Dose (solids & liquids) which kills 50% of the exposed animals s
LC_{50}	Lethal concentration (gases) which kills 50% of the exposed animal
ppm	Concentration expressed in parts of material per million parts
TD_{lo}	Lowest dose to cause a symptom
TCLo	Lowest concentration to cause a symptom
TD_{lo}, LD_{lo}, & LD_o or TC, TC_o, LC_{lo}, & LC_o	Lowest dose (or concentration) to cause lethal or toxic effects
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
RTECS	Registry of Toxic Effects of Chemical Substances
BCF	Bioconcentration Factor
TL_m	Median threshold limit
log K_{OW} or log K_{OC}	Coefficient of Oil/Water Distribution

REGULATORY INFORMATION:

WHMIS	Canadian Workplace Hazardous Material Information System
DOT	U.S. Department of Transportation
TC	Transport Canada
EPA	U.S. Environmental Protection Agency
DSL	Canadian Domestic Substance List
NDSL	Canadian Non-Domestic Substance List
PSL	Canadian Priority Substances List
TSCA	U.S. Toxic Substance Control Act
EU	European Union (European Union Directive 67/548/EEC)

EC INFORMATION:

C	E	F	N	O	T+	Xi	Xn
Corrosive	Explosive	Flammable	Harmful	Oxidizing	Toxic	Irritant	Harmful