

Page 1 of 6

SDS-E-CCS2000 Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards SDS Revision Date: 3/14/2018 1. PRODUCT & COMPANY IDENTIFICATION 1.1 Product Name: DUSTALL™ DUST REMOVER SPRAY, (P/N CCS-2000), 10 Oz. (284 g) 12 Chemical Name: Difluoroethane 1.3 Synonyms: DustALL™ 1.4 Trade Names DustALL™ Dust Remover Spray 1.5 Product Uses & Restrictions: **Dust Removing Spray** CAIG Laboratories, Inc. 1.6 Distributor's Name: 1.7 Distributor's Address: 12200 Thatcher Court, Poway, CA 92064-6876 USA 1.8 **Emergency Phone** CHEMTREC: +1 (703) 527-3887 / +1 (800) 424-9300 (CCN205206) 19 Business Phone / Fax: +1 (800) 224-4123 2. HAZARDS IDENTIFICATION Hazard Identification: This product is classified as a HAZARDOUS SUBSTANCE and as DANGEROUS GOODS according to the classification criteria of NOHSC: 1088 (2004) and ADG Code (Australia). DANGER! EXTREMELY FLAMMABLE GAS. CONTAINS GAS UNDER PRESSURE; MAY **EXPLODE IF HEATED.** Classification: Flam. Gas 1 2.2 Label Elements: Hazard Statements (H): H220 - Extremely flammable gas. H280 - Contains gas under pressure; may explode if heated. Precautionary Statements (P): P210 - Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking. P251 - Do not pierce or burn, even after use. P410+P412 -Protect from sunlight. Do not expose to temperatures exceeding 50 $^{\circ}$ C / 122 $^{\circ}$ F. P332+P313 – If skin irritation occurs: get medical advice/attention. P377 - Leaking gas fire: Do not extinguish, unless leek can be stopped safely. P381 - Eliminate all ignition sources if safe to do so. P410+P403 - Protect from sunlight. Store in a well-ventilated place. P501 - Dispose of contents/container to a licensed treatment, storage or disposal facility (TSDF). Other Warnings: KEEP OUT OF REACH OF CHILDREN 3. COMPOSITION & INGREDIENT INFORMATION EXPOSURE LIMITS IN AIR (mg/m³) ACGIH NOHSC ppm ppm ppm ES-TI V STEL PFI STFI IDI H CHEMICAL NAME(S) CAS No. RTECS No. **EINECS No** TWA STEL **PEAK** OTHER 1000 NA 1000 NF 75-37-6 K14100000 200-866-1 60-100 NF NA NA NA 1, 1-DIFLUOROETHANE (R-152A) Flam. Gas 1; Liq. Gas;H220, H280 4. FIRST AID MEASURES First Aid: If ingested, do not induce vomiting. If product has been swallowed, drink plenty of water or milk Ingestion: IMMEDIATELY. If the patient is vomiting, continue to offer water or milk. Never give water or milk to an unconscious person. Contact the nearest Poison Control Center or local emergency number. Provide an estimate of the time at which the material was ingested and the amount of the substance that was Splashes are not likely; however, if product gets in the eyes, flush with copious amounts of lukewarm Eyes: water for at least 15 minutes lifting upper and lower lids, occasionally. If irritation persist repeat flushing. Get medical attention. Wash thoroughly with soap and water. In case of contact, immediately flush skin with plenty of water for at Skin: least 15 minutes. Treat for frostbite if necessary, be gently warming affected area. If irritation, redness or swelling persists, contact a physician immediately. Remove victim to fresh air at once. If breathing difficult, administer oxygen. If breathing stops give Inhalation: artificial respiration. Keep person warm, quiet and get medical attention. 4.2 Effects of Exposure: If product is swallowed, may cause nausea, vomiting and/or diarrhea. Ingestion: Moderately irritating to the eyes. Symptoms of overexposure may include redness, itching, irritation and Eyes: Skin: May be irritating to skin. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in

some sensitive individuals.

Nausea, intestinal discomfort, vomiting and/or diarrhea.

Overexposure in eyes may cause redness, itching and watering.

Symptoms of skin overexposure may include redness, itching, and irritation of affected areas. Frostbite like symptoms. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in some

None expected.

individuals.

Inhalation:

Ingestion: Eyes:

Skin:

43

Symptoms of Overexposure:



Page 2 of 6 SDS-E-CCS2000

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards SDS Revision Date: 3/14/2018 4. FIRST AID MEASURES - cont'd Moderate irritation to eyes and skin near affected areas. Additionally, high concentrations of vapors can cause 4 4 Acute Health Effects: drowsiness, dizziness, headaches and nausea. Frostbite like effect to skin 4.5 Chronic Health Effects: Overexposure may trigger asthma-like symptoms in some sensitive individuals. May also induce skin sensitization and respiratory hypersensitivity. Possible allergic dermatitis. 4.6 Target Organs: Eyes, Skin, Respiratory System. Medical Conditions 4.7 Pre-existing dermatitis, other skin conditions, and disorders of the HEALTH 0 Aggravated by Exposure: target organs (eyes, skin, and respiratory system). **FLAMMABILITY** 4 Note to Physicians: Because of possible disturbances of cardiac PHYSICAL HAZARDS 3 rhythm, catecholamine drugs, such as epinephrine, should be used PROTECTIVE EQUIPMENT В with special caution only in situations of emergency life support. **EYES** SKIN 5. FIREFIGHTING MEASURES 5.1 Fire & Explosion Hazards: Level 3 Aerosol (NFPA 30B). Aerosols may burst at temperatures above 120 °F. Cool uninvolved containers to prevent possible bursting. Aerosols may be projectile hazards when bursting. If aerosols are bursting, stay clear until bursting is complete. This product is not flammable. However, if involved in a fire, this product may decompose at high temperatures to form toxic gases (e.g., CO, HF - hydrogen fluoride). Extinguishing Methods: 52 Water, Foam, CO₂, Dry Chemical. Use water spray to cool unopened containers. 5.3 Firefighting Procedures: Fight fires as for surrounding materials. As in any fire, wear MSHA/NIOSH approved self-contained breathing apparatus (pressure-demand) and full protective gear. Keep containers cool until well after the fire is out. Use water spray to cool fire-exposed surfaces and to protect personal. Fight fire upwind. Avoid spraying water directly into storage containers because of danger of boil-over. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway. Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. 6. ACCIDENTAL RELEASE MEASURES 6.1 Spills: Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment. Plastic or rubber gloves, respirator, eye protection and apron may be required for clean-up of large spills. Small Spills: Wear appropriate protective equipment including gloves and protective eyewear. Use a non-combustible material such as vermiculite or sand to soak up the product any liquid and place into a container for later disposal. Do not use water or a material such as "speedy dry" to soak up material. Sweep up material using non-sparking materials (e.g., plastic brooms, shovels, dustpans) and place into a metal or plastic container. Large Spills: Keep incompatible materials (e.g., organics such as oil) away from spill. Stay upwind and away from spill or release. Isolate immediate hazard area and keep unauthorized personnel out of area. Stop spill or release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant. Sweep up material using non-sparking materials (e.g., plastic brooms, shovels, dustpans) and place into a metal or plastic container. 7. HANDLING & STORAGE INFORMATION 7.1 Work & Hygiene Practices: Do not eat, drink or smoke when handling this product. Contents under pressure. Handle as to avoid puncturing container(s). When used as intended, no additional protective equipment is necessary. Use chemical goggles if eye contact is possible. Wash unintentional residues with soap and warm water. 7.2 Storage & Handling: Use and store in a cool, dry, well-ventilated location (e.g., local exhaust ventilation, fans) away from heat and direct sunlight. Avoid temperatures above 120 °F. Keep away from incompatible substances. Protect containers from physical damage. To avoid unintentional spraying keep cap in place when not in use. 7.3 Special Precautions: Clean all spills promptly. 8. EXPOSURE CONTROLS & PERSONAL PROTECTION Exposure Limits: ACGIH NOHSC OSHA OTHER 8.1 ppm (mg/m³) ES-ES-ES-CHEMICAL NAME(S) TLV STEL TWA STEL PEAK PEL STEL IDLH 1, 1-DIFLUOROETHANE (R-152A) 1000 NA 1000 NF NF NA NA NA 82 Ventilation & Engineering General mechanical (e.g., fans) or natural ventilation is sufficient when this product is in use. Use local or general Controls: exhaust ventilation to effectively remove and prevent buildup of vapors or mist generated from the handling of this product. Ensure appropriate decontamination equipment is available (e.g., sink, safety shower, eye-wash station) 8.3 Respiratory Protection: No special respiratory protection is required under typical circumstances of use or handling. In instances where fumes or vapors of this product are generated, and respiratory protection is needed, use only protection authorized by 29 CFR §1910.134, applicable U.S. state regulations, or the Canadian Standard Z94.4-93 or standards from EC member states, or Australia.



12.3

Effects on Aquatic Life

to overexposed aquatic life.

SAFETY DATA SHEET

Page 3 of 6

SDS-E-CCS2000 Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards SDS Revision Date: 3/14/2018 8. EXPOSURE CONTROLS & PERSONAL PROTECTION - cont'd 8.4 Eye Protection: Avoid eye contact. None required under normal conditions of use. Safety glasses could be used when handling or using large quantities of this product. 8.5 Hand Protection: None required under normal conditions of use. However, may cause skin irritation in some sensitive individuals. When handling large quantities (e.g., ≥ 1 gallon (3.8 L)), wear rubber, nitrile or impervious plastic gloves. 8.6 Body Protection: No apron required when handling small quantities. When handling large quantities (e.g., ≥ 5.0 lbs), eye wash stations and deluge showers should be available. Upon completion of work activities involving large quantities of this product, wash any exposed areas thoroughly with soap and water. 9. PHYSICAL & CHEMICAL PROPERTIES 9.1 Appearance: Aerosol, clear spray 9.2 Odorless 9.3 Odor Threshold: NA 9.4 pH: NA Melting Point/Freezing Point: 9.5 -108 °C (-162 °F) Initial Boiling Point/Boiling 9.6 -26.5 °C (-15.7 °F) Range: 9.7 Flashpoint: NA 9.8 Upper/Lower Explosive Limits: LEL: 4.32% v/v; UEL: 17.35% v/v 9.9 Vapor Pressure: NA 9.10 Vapor Density: 2.28 (air = 1.0)Relative Density: 9.11 1.21 g/mg3 at 25 °C (68 °F) 9.12 Solubility: 3,200 g/l at 21 °C (70 °F) 9.13 Partition Coefficient (log Pow): 9.14 Autoignition Temperature: 440 °C (824 °F) at 1,009.0 - 1,017.0 hPa (756.8 - 762.8 mmHg) 9.15 Decomposition Temperature: NA 9.16 Viscosity: NA 9.17 Other Information: NA 10. STABILITY & REACTIVITY 10.1 Stability Stable under normal conditions; unstable with heat or contamination. Hazardous Decomposition 10.2 Oxides of carbon (CO, CO₂), nitrogen (NO_x) and sulfur (SO₂). Products: Hazardous Polymerization: 10.3 Will not occur. 10.4 Conditions to Avoid Open flames, sparks, high heat, incompatible substances and direct sunlight. 10.5 Incompatible Substances: Avoid extreme heat and ignition sources. Store away from oxidizers. 11. TOXICOLOGICAL INFORMATION 11.1 Routes of Entry Inhalation: YES Absorption: YES Ingestion: YES 11.2 Toxicity Data: This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientific literature, is available for some of the components of the product. 11.3 Acute Toxicity: Moderate irritation to eyes and skin near affected areas. Additionally, high concentrations of vapors can cause drowsiness, dizziness, headaches and nausea. 11.4 Chronic Toxicity: This material may aggravate any pre-existing skin condition (e.g., dermatitis). 11.5 Suspected Carcinogen: This product does not contain any chemicals known to the State of California to cause cancer or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Reproductive Toxicity: 11.6 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 cause teratogenic effects in humans. Reproductive Toxicity: This product is not reported to cause reproductive effects in humans. 11.7 Irritancy of Product: The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) upon prolonged or repeated exposure. 118 Biological Exposure Indices: NE 11.9 Physician Recommendations: Treat symptomatically. 12. ECOLOGICAL INFORMATION 12.1 Environmental Stability: There is no specific data available for this product. 12 2 Effects on Plants & Animals: There are no specific data available for this product.

There are no specific data available for this product; however, very large releases of this product may be harmful or fatal



Page 4 of 6 SDS-E-CCS2000

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards SDS Revision Date: 3/14/2018 13. DISPOSAL CONSIDERATIONS 13.1 Waste Disposal: Products covered by this SDS, in their original form, when disposed as waste, are considered non hazardous waste according to Federal RCRA regulations (40 CFR 261). Disposal should be in accordance with local, state and federal regulations. Dispose of in accordance with federal, state and local regulations. 13.2 Special Considerations: U.S. EPA RCRA Hazardous Waste Code: D001 (Characteristic – Ignitability) 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. UN1030, 1,1-DIFLUOROETHANE, 2.1 (LTD QTY, IP VOL ≤ 120 mL); or 49 CFR (GND): CONSUMER COMMODITY, ORM-D (IP VOL ≤ 0.12 L) - until 12/31/2020. Outer packaging must be marked "INSIDE CONTAINERS COMPLY WITH PRESCRIBED REGULATIONS" 14.2 IATA (AIR): UN1030, 1,1-DIFLUOROETHANE, 2.1 This product is FORBIDDEN for transport on passenger aircraft. IMDG (OCN): 14.3 UN1030, 1,1-DIFLUOROETHANE, 2.1 (LTD QTY, IP VOL ≤ 120 mL) 14.4 TDGR (Canadian GND): UN1030, 1,1-DIFLUOROETHANE, 2.1 (LTD QTY, IP VOL ≤ 120 mL) ADR/RID (EU): 14.5 UN1030, 1,1-DIFLUOROETHANE, 2.1 (LTD QTY, IP VOL ≤ 120 mL) 14.6 SCT (MEXICO): UN1030, 1,1-DIFLOROETANO, 2.1 (CANTIDADA LIMITADA, IP VOL ≤ 120 mL) ADGR (AUS): 14.7 UN1030, 1,1-DIFLUOROETHANE, 2.1 (LTD QTY, IP VOL ≤ 120 mL) 15. REGULATORY INFORMATION 15.1 SARA Reporting This product does not contain any substances subject to SARA Title III, section 313 reporting requirements. Requirements 15.2 SARA Threshold Planning There are no specific Threshold Planning Quantities for the components of this product. Quantity: 15.3 TSCA Inventory Status: The components of this product are listed on the TSCA Inventory. CERCLA Reportable Quantity 15.4 NA Other Federal Requirements: 15.5 NA 15.6 Other Canadian Regulations: This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and the SDS 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. WHMIS Class A, B5 (Compressed Gas, Flammable Aerosol) 15.7 State Regulatory Information: Difluoroethane can be found on the following state criteria lists: Massachusetts Hazardous Substances List (MA) and New Jersey Right-to-Know List (NJ). No other ingredients in this product, present in a concentration of 1.0% or greater, are listed on any of the following state criteria lists: California Proposition 65 (CA65), Delaware Air Quality Management List (DE), Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Michigan Critical Substances List (MI), Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know List (NJ), New York Hazardous Substances List (NY), Pennsylvania Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substances List (WI). 15.8 Other Requirements: This product does not contain any chemicals known to the State of California to cause cancer or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



Page 5 of 6 SDS-E-CCS2000

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, GHS & 1272/2008/EC Standards SDS Revision: 3.2

SDS Revision Date: 3/14/2018

	16. OTHER INFORMATION							
16.1	Other Information:	DANGER! EXTREMELY FLAMMABLE GAS. CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED. Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking. Do not pierce or burn, even after use. Protect from sunlight. Do not expose to temperatures exceeding 50 °C / 122 °F. If skin irritation occurs: get medical advice/attention. Leaking gas fire: Do not extinguish, unless leek can be stopped safely. Eliminate all ignition sources if safe to do so. Protect from sunlight. Store in a well-ventilated place. Use only as directed. After contact with skin wash with plenty of warm water. In case of accident or if you feel unwell seek medical advice immediately (show the label where possible). If skin irritation occurs: get medical advice/attention. KEEP LOCKED UP AND OUT OF REACH OF CHILDREN.						
16.2	Terms & Definitions:	See last page of this Safety Data Sheet.						
16.3	Disclaimer:	This 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 is 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:	CAIG Laboratories, Inc. 12200 Thatcher Court Poway, CA 92064-6876 Tel: +1 (800) CAIG-123 (244-4123) Fax: +1 (858) 486-8398 fax http://www.caig.com/						
16.5	Prepared by:	ShipMate, Inc. P.O. Box 787 Sisters, Oregon 97759-0787 USA Tel: +1 (310) 370-3600 Fax: +1 (310) 370-5700 http://www.shipmate.com						



Page 6 of 6

SDS-E-CCS2000

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, GHS & 1272/2008/EC Standards

SDS Revision: 3.2

SDS Revision Date: 3/14/2018

DEFINITION OF TERMS

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

GENERAL INFORMATION:

CAS No.	Chemical Abstract Service Number				
RTECS No.	Registry of Toxic Effects of Chemical Substances Number				
EINECS No.	European Inventory of Existing Commercial Chemical Substances Number				

EXPOSURE LIMITS IN AIR:

ACGIH	ACGIH American Conference on Governmental Industrial Hygienists			
IDLH	Immediately Dangerous to Life and Health			
NOHSC	National Occupational Health and Safety Commission (Australia)			
OSHA U.S. Occupational Safety and Health Administration				
PEL Permissible Exposure Limit				
STEL Short Term Exposure Limit				
TLV Threshold Limit Value				
TWA	Time Weighted Average			

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

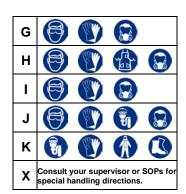
HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

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



PERSONAL PROTECTION RATINGS:

Α			
В			
С	(EV)	THE STATE OF THE S	
D	(EV)	THE THE	
Е			
F		THE SECOND	





OTHER STANDARD ABBREVIATIONS:

Carc	Carcinogenic			
Irrit	Irritant			
NA	Not Available			
NR	No Results			
ND	Not Determined			
NE	Not Established			
NF	Not Found			
SCBA	Self-Contained Breathing Apparatus			
Sens	Sensitization			
STOT RE	Specific Target Organ Toxicity – Repeat Exposure			
STOT SE	Specific Target Organ Toxicity – Single Exposure			

NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

FLAMMABILITY LIMITS IN AIR:						
Autoignition Temperature						
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 1 2	Minimal Hazard Slight Hazard Moderate Hazard	FLAMMABILITY
3	Severe Hazard	
4	Extreme Hazard	
ACD	Acidic	\sim 2
ALK	Alkaline	
COR	Corrosive	/ \ \ \ \
W	Use No Water	HEALTH
ох	Oxidizer	SPECIAL
TREFOIL	Radioactive	PRECAUTIONS

TOXICOLOGICAL INFORMATION:

Lethal Dose (solids & liquids) which kills 50% of the exposed animals			
Lethal concentration (gases) which kills 50% of the exposed animal			
Concentration expressed in parts of material per million parts			
Lowest dose to cause a symptom			
Lowest concentration to cause a symptom			
Lowest dose (or concentration) to cause lethal or toxic effects			
International Agency for Research on Cancer			
National Toxicology Program			
Registry of Toxic Effects of Chemical Substances			
Bioconcentration Factor			
Median threshold limit			
Coefficient of Oil/Water Distribution			

REGULATORY INFORMATION:

WHMIS	Canadian Workplace Hazardous Material Information System				
DOT	OT 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)				
WGK	WGK Wassergefährdungsklassen (German Water Hazard Class)				

WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION (WHMIS) SYSTEM:

0	®			Θ	(%)		
Class A	Class B	Class C	Class D1	Class D2	Class D3	Class E	Class F
Compressed	Flammable	Oxidizing	Toxic	Irritation	Infectious	Corrosive	Reactive

CLP/GHS (1272/2008/EC) PICTOGRAMS:

			\diamondsuit			\Diamond		*
GHS01	GHS02	GHS03	GHS04	GHS05	GHS06	GHS07	GHS08	GHS09
Explosive	Flammable	Oxidizer	Pressurized	Corrosive	Toxic	Harmful Irritating	Health Hazard	Environment