DURACOOL SYSTEMSEAL SAFETY DATA SHEET

Deepfreeze Refrigerants Inc.
2695 Slough Street
Mississauga Ontario L4T 1G2
Canada 905 671 4222

PRODUCT: Duracool SystemSeal 114 gm.

Section 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identity..... Duracool SystemSeal 114 gm.
Product Item Numbers..... 695547100013

Manufactured by..... Deepfreeze Refrigerants Inc..
2695 Slough Street
Mississauga Ontario L4T 1G2

24 hour emergency telephone number
CHEMTREC 1-800-262-8200 (within North America) +1 703-741-5500 (Worldwide)

Recommended Use..... A/C System Sealant.
Consumer Commodity..... Yes.

Section 02: HAZARDS IDENTIFICATION

Emergency Overview..... Extremely flammable. Container is under pressure. Container may explode if heated. Do not puncture. Do not burn. May cause skin and eye irritation.
KEEP OUT OF REACH OFCHILDREN.

Classification of the Substance or Mixture Classification (GHS-US)
Simple asphyxiant
Flam. Gas 1 H220
Liquefied gas H280
2.2. Label Elements
GHS-US Labeling
Hazard Pictograms (GHS-US)

GHS02

GHS04

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) :
H220 - Extremely flammable gas
H280 - Contains gas under pressure; may explode if heated
Simple asphyxiant - May displace oxygen and cause rapid suffocation

Precautionary Statements (GHS-US) :
P210 - Keep away from heat, hot surfaces, open flames, sparks No smoking.
P377 - Leaking gas fire: Do not extinguish, unless leak 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 according to local, regional, national, and international regulations.

Other Hazards Not Contributing to the Classification: Contact with product may cause cold burns or frostbite.
Aquatic Acute 3
H402 - Harmful to aquatic life
P273 - Avoid release to the environment

Potential Health Effects:
Skin Contact..... May cause skin irritation.
Eye Contact..... May cause irritation, redness and pain.
Ingestion..... Ingestion is not a likely route of exposure.
Inhalation..... Prolong inhalation of product may cause irritation.

Section 03: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product Identifier	%	Classification (GHS-US)
Petroleum gases, liquefied	(CAS No) 68476-85-7	96 - 97	Simple asphyxiant Flam. Gas 1, H220 Liquefied gas, H280

Name	Product identifier	%	Classification (GHS-US)
Ethyl alcohol	(CAS No) 64-17-5	2.9999	Flam. Liq. 2, H225 Eye Irritant. 2A, H319 Aquatic Acute 2, H401
Toluene	(CAS No) 108-88-3	0.0001	Flam. Liq. 2, H225 Acute Toxic. 4 (Oral), H302 Skin Irritant. 2, H315 Eye Irritant 2A, H319 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asphyxiant Toxic. 1, H304 Aquatic Acute 2, H401

Section 04: FIRST AID MEASURES

First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person.
If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate area.
Immediately call a POISON CENTER or doctor/physician. If inhaled, remove to fresh air. If not breathing, give artificial respiration if required and obtain immediate medical assistance. If breathing is difficult, give oxygen and get medical attention.

First-aid Measures After Skin Contact: If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Wash exposed area gently with soap and water.
Do not use hot water. Do not rub affected area. Get immediate medical attention.

First-aid Measures After Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

First-aid Measures After Ingestion: Do not induce vomiting. Immediately call a POISON CENTER or doctor/physician.
Most important symptoms and effects, both acute and delayed
Symptoms/Injuries: Gas can be toxic as a simple asphyxiant by displacing oxygen from the air.
Refrigerated liquefied gas. Contact with product may cause cold burns or frostbite.

Symptoms/Injuries After Inhalation: Asphyxiant gas.
Symptoms/Injuries After Skin Contact: May cause frostbite. May cause skin irritation. Symptoms/Injuries After Eye Contact: Contact with the liquefied gas causes frostbite. Symptoms/Injuries

After Ingestion: Ingestion is an unlikely route of exposure for a gas.
Indication of Any Immediate Medical Attention and Special Treatment Needed
If exposed or concerned, get medical advice and attention.

Additional Information..... Note to the doctor; treat symptomatically.

Section 05: FIRE FIGHTING MEASURES

Extinguishing Media
Suitable Extinguishing Media: Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO_2).
Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.
Hazards Arising From the Substance or Mixture
Fire Hazard: Flammable gas.
Explosion Hazard: Heat may build pressure, rupturing containers, spreading fire and increasing risk of burns and injuries.
Reactivity: Contains gas under pressure; may explode if heated. Reacts with strong oxidants causing fire and explosion hazard.

Advice for Firefighters
Precautionary Measures Fire: Exercise caution when fighting any chemical fire.
Firefighting Instructions: In case of fire: Evacuate area.
Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers.
Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Section 06: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
General Measures: Use special care to avoid static electric charges. Keep away from open flames, hot surfaces and sources of ignition. No smoking. Do not get in eyes, on skin, or on clothing. Do not breathe gas.

For Non-emergency Personnel
Protective Equipment: Use appropriate personal protection equipment (PPE).
Emergency Procedures: Evacuate unnecessary personnel. Eliminate ignition sources.

For Emergency Responders
Protective Equipment: Equip cleanup crew with proper protection.
Emergency Procedures: Stop leak if safe to do so. Ventilate area.

Environmental Precautions
Avoid release to the environment.

Methods and Material for Containment and Cleaning Up
For Containment: Stop leak without risks if possible. Do not take up in combustible material such as: saw dust or cellulosic material.
Methods for Cleaning Up: Contact competent authorities after a spill.

Reference to Other Sections
See heading 8, Exposure Controls and Personal Protection.

Section 07: HANDLING AND STORAGE

Precautions for Safe Handling
Precautions for Safe Handling: Personnel should be trained to regularly inspect equipment such as pumps, hoses, and valves. Do not breathe gas. Ensure there is adequate ventilation. Close valve after each use and when empty. Open valve slowly to avoid pressure shock.
Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities
Technical Measures: Comply with applicable regulations. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Keep at temperatures below 52°C / 125°F.
Storage Conditions: Store in a dry, cool and well-ventilated place. Keep in fireproof place. Store locked up.
Incompatible Products: Heat sources. Oxidizers.
Special Rules on Packaging: Store in containers fitted with suitable release valve.

End Use Air-Conditioning System Sealant.

Section 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

Petroleum gases, liquefied (68476-85-7)

USA ACGIH	ACGIH TWA (ppm)	1000 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m³)	1800 mg/m³
USA NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm
USA IDLH	US IDLH (ppm)	2100 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) (mg/m³)	1800 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

Ethyl Alcohol (64-17-5)

USA ACGIH	ACGIH STEL (ppm)	1000 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m³)	1900 mg/m³
USA NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm
USA IDLH	US IDLH (ppm)	3300 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) (mg/m³)	1900 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

Toluene (108-88-3)

USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m³)	375 mg/m³
USA NIOSH	NIOSH REL (TWA) (ppm)	100 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m³)	560 mg/m³
USA NIOSH	NIOSH REL (STEL) (ppm)	150 ppm
USA IDLH	US IDLH (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	300 ppm

Exposure Controls

Appropriate Engineering Controls :
Alarm detectors should be used where toxic gases may be released.
Emergency eye wash fountains, safety showers should be available in the immediate vicinity of any potential exposure.
Ensure all national / local regulations are observed.

Personal Protective Equipment

Gas mask	Protective goggles	Gloves	Protective clothing
			

Materials for Protective Clothing: Chemically resistant materials and fabrics.
Hand Protection: Wear approved gloves when handling gas containers.
Eye Protection: Safety glasses with side protection
Skin and Body Protection: Wear suitable approved protective clothing.
Respiratory Protection : Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.
Thermal Hazard Protection : Wear cold insulating gloves.

Section 09: PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties:

Physical State :	Gas
Appearance :	Colorless Liquid
Odor :	Amine Odor
Odor Threshold :	No data available
pH :	No data available
Relative Evaporation Rate (butylacetate=1) :	< 1
Melting Point :	No data available
Freezing Point :	No data available
Boiling Point :	61.7 °C (143 °F)
Flash Point :	No data available
Auto-ignition Temperature :	No data available
Decomposition Temperature :	No data available
Flammability (solid, gas) :	No data available
Vapor Pressure :	117.74 hPa
Relative Vapor Density at 20 °C :	> 1 (Heavier than Air)
Relative Density :	9.1 (water = 1)
Solubility :	No data available
Partition coefficient: n-octanol/water :	No data available
Viscosity :	No data available

Other Information
Gas group : Liquefied gas

Section 10: STABILITY AND REACTIVITY

Reactivity:	Contains gas under pressure; may explode if heated. Reacts with oxidants causing fire and explosion hazard.
Chemical Stability:	Stable under recommended handling and storage conditions
Possibility of Hazardous Reactions:	Hazardous polymerization will not occur.
Conditions to Avoid:	Direct sunlight. Extremely high or low temperatures. Open flame. Heat. Sparks.
Incompatible Materials:	Heat. Strong oxidizers.
Hazardous Decomposition Products:	Carbon oxides (CO, CO_2).

Section 11: TOXICOLOGICAL INFORMATION

Information On Toxicological Effects
Acute Toxicity: Not classified

Petroleum gases, liquefied (68476-85-7)	
LC50 Inhalation Rat (mg/l)	658 mg/l/4h
Ethyl alcohol (64-17-5)	
LD50 Oral Rat	10470 mg/kg

LD50 Dermal Rat	20 ml/kg
LC50 Inhalation Rat (mg/l)	124.7 mg/l/4h
Toluene (108-88-3)	
LD50 Oral Rat	636 mg/kg
LD50 Dermal Rabbit	8390 mg/kg
LC50 Inhalation Rat (mg/l)	12.5 mg/l/4h

Skin Corrosion/Irritation: Not classified
Serious Eye Damage/Irritation: Not classified
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Carcinogenicity: Not classified

Toluene (108-88-3)	
IARC group	3

Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Aspiration Hazard: Not classified
Symptoms/Injuries After Inhalation: Asphyxiant gas.
Symptoms/Injuries After Skin Contact: May cause frostbite. May cause skin irritation.
Symptoms/Injuries After Eye Contact: Contact with the liquefied gas causes frostbite.
Symptoms/Injuries After Ingestion: Ingestion is an unlikely route of exposure for a gas.

Section 12: ECOLOGICAL INFORMATION

Toxicity
Ecology - General : Harmful to aquatic life.

Ethyl alcohol (64-17-5)	
LC50 Fish 1	9.468 (9.468 - 12.624) mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static]) converted from ml/l
EC50 Daphnia 1	9268 (9268 - 14221) mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	2 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
Toluene (108-88-3)	
LC50 Fish 1	15.22 - 19.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	5.46 - 9.83 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 Other Aquatic Organisms 1	> 433 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata)
LC 50 Fish 2	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Other Aquatic Organisms 2	12.5 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata [static])

Persistence and Degradability

Ethyl alcohol (64-17-5)	
Persistence and Degradability	Not established

Bioaccumulative Potential

Petroleum gases, liquefied (68476-85-7)
Log Pow 2.3
Ethyl alcohol (64-17-5)
Log Pow -0.32
Bioaccumulative Potential Not established.
Toluene (108-88-3)
Log Pow 2.65

Mobility in Soil No additional information available

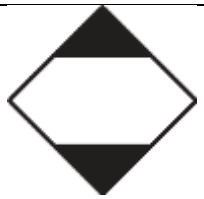
Other Adverse Effects No additional information available

Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods
Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.
Additional Information: Empty product containers may contain hazardous residue. Do not reuse empty containers without commercial cleaning or reconditioning.

Section 14: TRANSPORT INFORMATION

TDG (Canada- Road)..... Class 2.1, UN1075.
DOT (US-Road)..... Class 2.1, UN1075, LTD. QTY. OR ORM-D.
IMDG (International- Marine)..... Class 2.1, UN1075.

In Accordance with DOT Proper Shipping Name : Consumer commodity DOT Symbols : D - Proper shipping name for domestic use only	
In Accordance with IMDG Proper Shipping Name : PETROLEUM GASES, LIQUEFIED Hazard Class : 2.1 Identification Number : UN1075 Label Codes : 2.1 EmS-No. (Fire) : F-D EmS-No. (Spillage) : S-U Marine Pollutant : No	
In Accordance with IATA Proper Shipping Name : PETROLEUM GASES, LIQUEFIED Identification Number : UN1075 Hazard Class : 2 Label Codes : 2.1 ERG Code (IATA) : 10L Marine Pollutant : No	

Section 15: REGULATORY INFORMATION

Canada..... WHMIS Classification. A: Compressed gas. B5: Flammable.
US Federal Regulations

SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard Sudden release of pressure hazard
Petroleum gases, liquefied (68476-85-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Ethyl alcohol (64-17-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Toluene (108-88-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	1000 lb
SARA Section 313 - Emission Reporting	1.0 %

Section 16: OTHER INFORMATION

GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Gas 1	Flammable gases Category 1
Flam. Liq. 2	Flammable liquids Category 2
Liquefied gas	Gases under pressure Liquefied gas
Repr. 2	Reproductive toxicity Category 2
Simple Asphy	Simple Asphyxiant
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H220	Extremely flammable gas
H225	Highly flammable liquid and vapor
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life
H402	Harmful to aquatic life

Disclaimer..... The information contained herein is based on data considered accurate. No warranty is expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Deepfreeze Refrigerants assumes no responsibility for personal injury or property damage to vendees or users or third parties, caused by the material. Such vendees or users assume all risks with the use of the material. This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

THIS SDS IS VALID FOR THREE YEARS.

Abbreviations..... ACGIH: American Conference of Governmental Industrial Hygienists; CAS: Chemical Abstract Service; NIOSH: National Institute for Occupational Safety and Health, OSHA: Occupational Safety and Health Administration- USA; TSCA: Toxic Substances Control Act 1976-USA; PEL: Permissible Exposure Limit; REL: Recommended Exposure Limit; TLV: Threshold Limit Value; VOC: Volatile Organic Content; WHIMIS: Workplace Hazardous Materials Information System.

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