

DuraCool 12a-yf Refrigerant with Dye

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PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: DuraCool 12a-yf Replacement Refrigerant with Dye 6 oz, 8 oz
SDS Number: 12a-yf Refrigerant
Revision Date: 2/15/2023
Version: 3.0
Product Description: Refrigerant
Supplier Details: Deepfreeze Refrigerants, Inc.
2695 Slough Street
Mississauga, ON L4T 1G2
Contact: Barry Clark
Phone: 416-741-2341
Email: bjclark@duracool.com
Web: <http://www.duracool.com/>
Emergency: CHEMTREC 1-800-424-9300

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HAZARDS IDENTIFICATION**Classification of the Substance or Mixture****GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):**

Physical, Flammable Gases, 1
Physical, Flammable Liquids, 3
Physical, Gases Under Pressure, Compressed Gas
Health, Skin corrosion/irritation, 2
Health, Respiratory or skin sensitization, 1 Skin
Environmental, Hazards to the aquatic environment - Acute, 1
Environmental, Hazards to the aquatic environment - Chronic, 1

GHS Label Elements, Including Precautionary Statements**GHS Signal Word: DANGER****GHS Hazard Pictograms:****GHS Hazard Statements:**

H220 - Extremely flammable gas
H226 - Flammable liquid and vapour
H280 - Contains gas under pressure; may explode if heated
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H410 - Very toxic to aquatic life with long lasting effects
OSHA-H01 - May displace oxygen and cause rapid suffocation

GHS Precautionary Statements:

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 - Wash skin thoroughly after handling.

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- P272 - Contaminated work clothing should not be allowed out of the workplace.
 P273 - Avoid release to the environment.
 P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
 P321 - Specific treatment (see supplemental first aid instructions on this label).
 P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.
 P362 - Take off contaminated clothing and wash before reuse.
 P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
 P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
 P381 - In case of leakage, eliminate all ignition sources.
 P391 - Collect spillage.
 P403 - Store in a well-ventilated place.
 P403 + P235 - Store in a well-ventilated place. Keep cool.
 P410 + P403 - Protect from sunlight. Store in a well-ventilated place.
 P501 - Dispose of contents/ container to an approved waste disposal plant.

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COMPOSITION/INFORMATION OF INGREDIENTS

		Chemical Ingredients:
CAS#	%	Chemical Name:
68476-85-7		Petroleum gases, liquefied
138-86-3		Proprietary

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FIRST AID MEASURES

- Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Immediately call a POISON CENTER or doctor/physician.
Skin Contact: If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention.
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.
Ingestion: Do not induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.

4.2. 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.

Ingestion: An unlikely route of exposure for a gas.

Inhalation: Asphyxiant gas.

Skin Contact: May cause frostbite. Exposure may produce an allergic reaction.

Eye Contact: Contact with the liquefied gas causes frostbite.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

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FIRE FIGHTING MEASURES

LEL: 2.6
 UEL: 9

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, dry powder, or carbon dioxide can be directed at flame area to reduce fire intensity.

Unsuitable Extinguishing Media: Do not extinguish flames unless leak can be stopped.

5.2. Special Hazards Arising from the Substance or Mixture

Fire Hazard: Extremely flammable gas.

Explosion Hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity: Contains gas under pressure; may explode if heated.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: If possible, stop flow of gas. Use water to cool fire-exposed tanks, surroundings, and to protect personnel working on shut off. If leak cannot be stopped, evacuate area. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

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ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing. Avoid breathing (vapor, mist, spray). Use special care to avoid static electric charges. Keep away from heat, sparks, open flames, hot surfaces. No smoking.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip clean up crew with proper protection.

Emergency Procedures: Stop Leak if safe to do so. Eliminate ignition sources. Ventilate area.

6.2. Environmental Precautions

Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

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HANDLING AND STORAGE

Handling Precautions:

7.1. 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.

Storage Requirements:

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. 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.

7.3. Specific End Use(s): Refrigerant

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EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

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

Personal Protective Equipment:

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Gas mask. Protective goggles. Gloves. Protective clothing.

Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear working gloves when handling gas containers.

Eye Protection: Safety glasses.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: use a NIOSH-approved self-contained breathing apparatus in oxygen deficient atmospheres.

Thermal hazard Protection: Wear cold insulating gloves.

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Personal protective equipment

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique

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(without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact: Material: Nitrile rubber Minimum layer thickness: 0.4 mm Break through time: 480 min Material tested: Camatril (KCL 730 / Aldrich Z677442, Size M)

Splash contact: Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 30 min Material tested: Dermatril (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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

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Components with workplace control parameters

TWA 30 ppm USA. Workplace Environmental Exposure Levels (WEEL)

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Yellow	Odor:	Pine odor added
Physical State:	Gas	Solubility:	No data available
Odor Threshold:	No data available	Freezing/Melting Pt.:	- 176.67 °C (- 286 °F)
Spec Grav./Density:	0.53	Flash Point:	No data available
Viscosity:	No data available	Vapor Density:	1.64 (at 20°C added to vapor density)
Boiling Point:	- 37.8 °C (- 36.1 °F)	Auto-Ignition Temp:	644.44 ° (1246°F)
Partition Coefficient:	No data available	UFL/LFL:	9 % / 2.6 %
Vapor Pressure:	586.05 kPa (85 psi) at 21.1°C (70°F)		
pH:	No data available		
Evap. Rate:	No data available		
Decomp Temp:	No data available		

10 STABILITY AND REACTIVITY

Reactivity: Contains gas under pressure; may explode if heated. Vapor may ignite if exposed to static discharge.
Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

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Conditions to Avoid:	Direct sunlight. Extremely high or low temperatures. Open flame. Heat. Sparks. Static Discharge.
Materials to Avoid:	Oxidizing agents such as chlorine, permanganates and dichromats.
Hazardous Decomposition:	Carbon oxides (CO, CO2).
Hazardous Polymerization:	Hazardous polymerization will not occur.

11 TOXICOLOGICAL INFORMATION

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Information on Toxicology

Acute Toxicity: Not classified
 LC50 Inhalation Rat: 658mg/l/4h
 Petroleum Oil: > 2000 mg/kg
 LD 50 Oral Rat: > 2000 mg/kg
 LD50 Dermal Rat: > 2000 mg/kg
 LC50 Inhalation Rat: > 2000 mg/kg

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
 Reproductive Toxicity: Not classified
 Specific Target Organ Toxicity (Single Exposure): Not classified
 Specific Target Organ Toxicity (Repeated Exposure): Not classified
 Aspiration Hazard: Not classified

Proprietary cas#:(138-86-3)

Information on toxicological effects

Acute toxicity:
 LD50 Oral - rat - 5,300 mg/kg
 Inhalation: no data available
 Dermal: no data available
 Skin corrosion/irritation: Skin - rabbit Result: Skin irritation - 24 h
 Serious eye damage/eye irritation: no data available
 Respiratory or skin sensitisation: Germ cell mutagenicity: no data available
 Carcinogenicity:
 IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
 ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
 NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
 OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
 Reproductive toxicity: no data available
 Specific target organ toxicity - single exposure: no data available
 Specific target organ toxicity - repeated exposure: no data available
 Aspiration hazard: no data available
 Additional Information:
 RTECS: OS8100000
 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12 ECOLOGICAL INFORMATION

Petroleum gases, liquefied cas#:(68476-85-7)

Information on Ecology

Toxicity: No additional information
 Persistence and Degradability: No additional information available
 Bio accumulative Potential ---
 Duracool Oil Chill
 Log Pow: < 1
 Petroleum gases, liquefied (68476-85-7)

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Log Pow: 2.3

Mobility in Soil: No additional information available

Other Adverse Effects: No additional information available

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Information on ecological effects

Toxicity:

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 80 mg/l - 96.0 h.

Toxicity to daphnia and EC50 - Daphnia magna (Water flea) - 17 mg/l - 48 h.

other aquatic invertebrates

Persistence and degradability: no data available

Bio accumulative potential: no data available

Mobility in soil: no data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life.

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DISPOSAL CONSIDERATIONS

Petroleum gases, liquefied cas#:(68476-85-7)

Information on Disposal

Waste Treatment Methods

Waste Disposal Recommendation: Dispose of waste in accordance with all local, regional, national, provincial, territorial and international regulations.

Additional Information: Empty product containers may contain hazardous residue. Do not reuse empty containers without commercial cleaning or reconditioning.

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Waste treatment methods

Product: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging: Dispose of as unused product.

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TRANSPORT INFORMATION

14.1 In Accordance with US DOT:

Consumer commodity, ORM-D



14.2. In Accordance with IMDG & IATA:

Proper Shipping Name: Petroleum gases, liquefied

Hazard Class: 2

Identification Number: UN1075

Label Codes: 2.1



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REGULATORY INFORMATION

[%] RQ (CAS#) Substance - Reg Codes

[--%] Petroleum gases, liquefied (68476-85-7) MASS, OSHAWAC, PA, TSCA, TXAIR

[--%] Proprietary (138-86-3) TSCA

This product does not contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Regulatory Code Legend

MASS = MA Massachusetts Hazardous Substances List

OSHA WAC = OSHA Workplace Air Contaminants PA =

PA Right-To-Know List of Hazardous Substances TSCA =

Toxic Substances Control Act

TXAIR = TX Air Contaminants with Health Effects Screening Level

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OTHER INFORMATION

HMIS	
HEALTH	<input type="checkbox"/>
FLAMMABILITY	<input type="checkbox"/>
HAZARDOUS	<input type="checkbox"/>
PERSONAL PROTECTION	J

PPE	
	
	
	

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