



# CRYOTECH POLAR GUARD® ADVANCE

## Type IV Aircraft Deicing/Anti-icing Fluid

### MATERIAL SAFETY DATA SHEET

<p><b>1. PRODUCT NAME &amp; DESCRIPTION</b></p> <p><b>CRYOTECH POLAR GUARD® ADVANCE</b> Type IV Aircraft Deicing/Anti-icing Fluid Complies with Specification AMS 1428</p> <p><b>MANUFACTURED AND SUPPLIED IN THE USA BY:</b> Cryotech Deicing Technology 6103 Orthoway Fort Madison, IA 52627 United States</p> <p><b>CRYOTECH CONTACT INFORMATION:</b> Telephone: (800)346-7237 FAX: (319)372-2662 email: <a href="mailto:deicers@cryotech.com">deicers@cryotech.com</a> website: <a href="http://www.cryotech.com">http://www.cryotech.com</a></p>	<p><b>5. FIRE FIGHTING MEASURES</b></p> <p><b>FLASH POINT (close cup):</b> &gt;100°C</p> <p><b>AUTO IGNITION:</b> &gt;400°C</p> <p><b>EXPLOSION LIMITS:</b> No data available.</p> <p><b>EXTINGUISHING MEDIA:</b> Water, foam, Carbon Dioxide, dry powder.</p> <p><b>SPECIFIC FIRE FIGHTING PROCEDURES:</b> None</p> <p><b>HAZARDOUS DECOMPOSITION PRODUCTS:</b> Incomplete combustion may produce Carbon Monoxide and other harmful gases/vapors.</p> <p><b>UNUSUAL FIRE HAZARDS:</b> The product may become combustible after prolonged heating at the boiling point.</p> <p><b>NFPA RATINGS:</b> <b>Health 0; Flammability 1; Reactivity 0; Special NDA:</b> (Least - 0, Slight - 1, Moderate - 2, High - 3, Extreme - 4) These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint Coating Association.</p>												
<p><b>2. CHEMICAL COMPOSITION</b></p> <p>The percent compositions are given to allow for the various ranges of the components present in the whole product and may not equal 100%.</p> <table border="1"><thead><tr><th>PERCENT CONTAINING</th><th>COMPONENT</th><th>CAS#</th></tr></thead><tbody><tr><td>100%</td><td>Cryotech Polar Guard® Advance</td><td></td></tr><tr><td>50%</td><td>Propylene Glycol</td><td>57-55-6</td></tr><tr><td>50%</td><td>Water and other proprietary ingredients</td><td>7732-18-5</td></tr></tbody></table> <p>CAS - Chemical Abstract Service Number</p>	PERCENT CONTAINING	COMPONENT	CAS#	100%	Cryotech Polar Guard® Advance		50%	Propylene Glycol	57-55-6	50%	Water and other proprietary ingredients	7732-18-5	<p><b>6. ACCIDENTAL RELEASE MEASURES</b></p> <p>Chemical Emergency: Spill, leak, fire, or accident call Chemtrec day or night (800)424-9300; Outside continental USA call (703)527-3887</p> <p><b>SPILL/LEAK PRECAUTIONS:</b> Contain spillage and absorb on suitable material e.g. sawdust, sand or earth. Transfer to a container for disposal. See section 13. Wash the spillage area with plenty of water.</p>
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100%	Cryotech Polar Guard® Advance												
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<p><b>3. HAZARD IDENTIFICATION</b> (also see Sections 11 and 12) <b>CAUTION! - MAY CAUSE EYE IRRITATION</b></p> <p><b>EYE CONTACT:</b> This substance may be slightly irritating to the eyes.</p> <p><b>SKIN IRRITATION:</b> This substance is not expected to cause prolonged or significant skin irritation.</p> <p><b>RESPIRATORY/INHALATION:</b> This material does not present an inhalation hazard.</p> <p><b>INGESTION:</b> If swallowed, this substance is considered practically non-toxic to internal organs.</p>	<p><b>7. HANDLING AND STORAGE</b></p> <p><b>STORAGE:</b> Store in tightly sealed original containers, away from direct heat and strong oxidizing agents. Do not store in uncoated mild steel tanks.</p> <p><b>SPECIAL PRECAUTIONS:</b> Avoid contact with skin and eyes. Avoid breathing mists/vapors when spraying.</p> <p><b>TEMPERATURE STORAGE LIMITS:</b> Minimum -20°F (-30°C) Maximum 50°C (122°F)</p>												
<p><b>4. FIRST AID MEASURES</b></p> <p>Chemical Emergency: Spill, leak, fire, or accident call Chemtrec day or night (800)424-9300; Outside continental USA call (703)527-3887</p> <p><b>EYE CONTACT:</b> Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. No additional first aid should be necessary. However, if irritation persists, see a doctor.</p> <p><b>SKIN CONTACT:</b> No first aid procedures are required. As a precaution, wash skin thoroughly with soap and water. Remove and wash contaminated clothing.</p> <p><b>INHALATION:</b> Since this material is not expected to be an immediate inhalation problem, no first aid procedures are required.</p> <p><b>INGESTION:</b> If swallowed, give water or milk to drink and telephone for medical advice. DO NOT make the person vomit unless directed to do so by medical personnel. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.</p>	<p><b>8. EXPOSURE CONTROLS/PERSONAL PROTECTION</b></p> <p><b>EYE PROTECTION:</b> Wear eye protection if splashing is possible.</p> <p><b>SKIN PROTECTION:</b> No special skin protection is usually necessary. Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing protective clothing.</p> <p><b>RESPIRATORY PROTECTION:</b> No special respiratory protection is normally required.</p> <p><b>VENTILATION:</b> No special ventilation is necessary.</p>												



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<p><b>9. PHYSICAL AND CHEMICAL PROPERTIES (typical values)</b></p> <p><b>APPEARANCE:</b> Semi-transparent, green color.</p> <p><b>ODOR:</b> None</p> <p><b>pH (20°C):</b> 6.4 - 7.4</p> <p><b>BOILING POINT:</b> &gt;100°C</p> <p><b>FREEZING POINT:</b> -37°C</p> <p><b>SPECIFIC GRAVITY (20°C):</b> 1.04</p> <p><b>VISCOSITY (20°C): (Brookfield LVT Spindle LV-1, 0.3rpm)</b> 4,050 - 16,200</p> <p><b>SOLUBILITY:</b> Completely miscible in water</p>	<p><b>13. DISPOSAL CONSIDERATION</b></p> <p>Based on information available to Cryotech Deicing Technology, this product is neither listed as a hazardous waste nor does it exhibit any of the characteristics that would cause it to be classified or disposed of as an RCRA hazardous waste. If product should spill or be otherwise unsuitable for normal deicing applications, it may be absorbed on suitable materials and disposed of in sanitary landfill unless state or local regulations prohibit such disposal.</p>										
<p><b>10. STABILITY &amp; REACTIVITY</b></p> <p><b>HAZARDOUS DECOMPOSITION PRODUCTS:</b> None known.</p> <p><b>STABILITY:</b> Stable</p> <p><b>HAZARDOUS POLYMERIZATION:</b> Polymerization will not occur.</p> <p><b>INCOMPATIBILITY:</b> May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.</p> <p><b>SPECIAL PRECAUTIONS:</b> READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL. Store away from strong oxidizing materials.</p>	<p><b>14. TRANSPORT INFORMATION</b></p> <p>Not restricted under any transport regulations.</p>										
<p><b>11. TOXICOLOGICAL INFORMATION</b></p> <p><b>EYE IRRITATION:</b> No product toxicology data available. The hazard evaluation was based on data from similar products.</p> <p><b>SKIN IRRITATION:</b> No product toxicology data available. The hazard evaluation was based on data from similar products.</p> <p><b>RESPIRATORY/INHALATION:</b> No product toxicology data available. The hazard evaluation was based on data from similar products.</p> <p><b>INGESTION:</b> No product toxicology data available. The hazard evaluation was based on data from similar products.</p>	<p><b>15. REGULATORY INFORMATION</b></p> <p><b>ALL OF THE COMPONENTS IN THIS PRODUCT ARE ON THE FOLLOWING INVENTORY LISTS:</b> U.S.A. (TSCA), Europe (EINECS), Canada (DSL/NDSL).</p> <p><b>TSCA SECTION 12(b):</b> None of the chemicals in this product are listed under TSCA Section 12(b).</p> <p><b>OSHA HAZARD CLASSIFICATION:</b> Hazardous Chemical (Irritant); None of the chemicals in the product are considered highly hazardous by OSHA.</p> <p><b>CERCLA HAZARDOUS SUBSTANCES:</b> There is no CERCLA Reportable Quantity for this material.</p> <p><b>SARA 311 CATEGORIES:</b></p> <table border="0"><tr><td>Immediate (Acute) Health Hazard:</td><td>Yes</td></tr><tr><td>Delayed (Chronic) Health Hazard:</td><td>No</td></tr><tr><td>Fire Hazard:</td><td>Yes</td></tr><tr><td>Sudden Release of Pressure Hazard:</td><td>No</td></tr><tr><td>Reactivity Hazard:</td><td>No</td></tr></table> <p><b>SARA 313:</b> None of the chemicals in this product are subject to reporting requirements under SARA Section 313.</p> <p><b>CLEAN WATER ACT:</b> 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.</p> <p><b>STATE RIGHT-TO-KNOW:</b> This product does not contain materials listed on the specific Toxic or Hazardous Substance Lists of the following states: PA, MA, NJ. This product does not contain materials known to the State of California (Proposition 65) to cause cancer and/or reproductive harm.</p> <p><b>WHMIS (Canada) CLASSIFICATION:</b> Not controlled</p>	Immediate (Acute) Health Hazard:	Yes	Delayed (Chronic) Health Hazard:	No	Fire Hazard:	Yes	Sudden Release of Pressure Hazard:	No	Reactivity Hazard:	No
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<p><b>12. ECOLOGICAL INFORMATION</b></p> <table border="0"><tr><td>COD (20°C):</td><td>0.82 kg O<sub>2</sub>/kg fluid</td></tr><tr><td>BOD<sub>5</sub> (20°C):</td><td>0.4 kg O<sub>2</sub>/kg fluid</td></tr><tr><td>5 day BOD/COD:</td><td>0.49</td></tr></table>	COD (20°C):	0.82 kg O <sub>2</sub> /kg fluid	BOD <sub>5</sub> (20°C):	0.4 kg O <sub>2</sub> /kg fluid	5 day BOD/COD:	0.49	<p><b>16. OTHER INFORMATION</b></p> <p>This Material Safety Data Sheet contains environmental, health and toxicology information for your employees. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information incorporated in your MSDS. Discard any previous edition of this MSDS. <b>Latest version of this MSDS can be obtained from Cryotech.</b></p>				
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