

PRODUCT IDENTIFICATION

**Product Name:** Arctic Assist Technical Grade**CAS Number:** 57-55-6**Molecular Formula:** $C_3H_8O_2$ **Molecular Weight:** 76.09 g/mol**Grade:** Technical Grade**Purity / Concentration:** 100%**Synonyms:** Arctic Aid, Cold Support

PRODUCT OVERVIEW

Arctic Assist Technical Grade is a high-purity, 100% concentration propylene glycol-based solution engineered for superior thermal stability. With a low-viscosity, purple-dyed formulation and an assay of 100%, it provides consistent heat transfer performance for demanding industrial cooling applications.

Grade Significance: Technical Grade signifies that the product is manufactured to meet rigorous industrial standards, ensuring high performance in technical applications where extreme purity is essential for process reliability.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay Gc	%	100.0	99.5	100.5	GC
Color (APHA)	APHA	1	—	30	APHA
pH	—	8.6	8	10.5	pH Meter
Specific Gravity (20°C)	g/mL	1.0455	1.0405	1.0505	Hydrometer @ 20°C
Water Karl Fischer	%	0.03	—	0.05	Karl Fischer
Aluminum Al	ppm	≤ 0.01 ppm	—	—	ICP-MS
Arsenic As	ppm	0.02	0	0.05	ICP-MS
Chromium Cr	ppm	0.03	0	0.06	ICP-OES
Iron (Fe)	ppm	ND	—	0.1	ICP-MS
Chlorides As Cl	ppm	0.05	—	2	ICP
Nitrate (NO ₃ ⁻)	ppm	≤ 3 ppm	—	—	Per specification
Phosphate	ppm	≤ 0.02 ppm	—	—	Per specification
Sulfate (SO ₄ ²⁻)	ppm	≤ 1 ppm	—	—	ICP
Acidity As Acetic	%	ND	—	0.05	Titration
Aldehydes As Acetaldehyde	ppm	2	—	30	Spectrophotometry
Antimony Sb	ppb	≤ 4 ppb	—	—	ICP-MS
Boron B	ppm	0.03	0	0.05	ICP-MS
Cadmium Cd	ppm	0.03	0	0.05	ICP-MS
Deg Content	%	0.02	—	0.1	GC
Uv Transmittance 220Nm	%T	89.5	70	—	UV Spectrophotometry
Uv Transmittance 275Nm	%T	95.2	90	—	UV Spectrophotometry

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Purple dyed liquid, low viscosity	Odor	Slightly sweet odor
Form	Liquid	Boiling Point	165°C (329°F)
Melting / Freezing Point	-9°C (15.8°F)	Flash Point	62°C (143.6°F)
Specific Gravity	1.045	Solubility	Moderate organic solvent solubility
Molecular Formula	C ₃ H ₈ O ₂	Molecular Weight	76.09 g/mol
Vapor Pressure (20°C)	15 mmHg	Viscosity (25°C)	1.2 cP
Refractive Index (20°C)	1.335	Density (25°C)	1.025 g/mL
Decomposition Temp.	No decomposition below 200°C		

APPLICATIONS

- HVAC and Refrigeration** — Functions as a reliable coolant in closed-loop refrigeration systems to enhance overall thermal efficiency and prevent equipment freezing.
- Cryogenics** — Serves as an effective medium for maintaining stable, low-temperature environments during delicate cryogenic experimental procedures.
- Chemical Manufacturing** — Acts as a precise heat transfer fluid in chemical reactors where maintaining specific temperature control is critical for reaction success.
- Logistics and Storage** — Used as a stabilizing agent to protect temperature-sensitive compounds and materials during long-term storage or transit.

STORAGE & HANDLING

Arctic Assist should be stored in a cool, well-ventilated area away from direct heat sources to maintain its integrity, given its flash point of 62°C. Proper sealing is essential to prevent contamination and ensure the purity levels, such as the ultra-low 2 ppm aldehyde content, remain consistent for end-user applications.

- Store in a cool, dry place away from direct sunlight.
- Use HDPE containers for compatibility and to prevent leaching.
- Avoid contact with strong oxidizing agents.
- Ensure proper ventilation when handling to minimize inhalation risks.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles.

AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 15 Gallon
- 55 Gallon
- 275 Gallon
- 330 Gallon

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: Warning

No GHS pictograms assigned.

Hazard Statements:

- Not Classified
- Reported as not meeting GHS hazard criteria by 6762 of 6899 companies (only 2% companies provided GHS information). For more detailed information, please visit ECHA C&L website.

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

Alliance Chemical | 204 South Edmond St, Taylor, Texas 76574 | 512-365-6838 | www.alliancechemical.com

Disclaimer: The information contained herein is believed to be accurate and represents the best information currently available to us. However, Alliance Chemical makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.