

Safety Data Sheet

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1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Arctic Wave G

SDS No.: CCC-99

2. HAZARDS IDENTIFICATION

OSHA Hazards: Harmful by ingestion, Irritant

Target Organs: Kidneys, Liver

Signal Words: Warning

Pictograms:



GHS Classification:

Acute toxicity, Oral	Category 4
Eye irritation	Category 2B

GHS Label Elements, including precautionary statements:

Hazard Statements:

H302	Harmful if swallowed.
H320	Causes eye irritation.
H373	May cause damage to organs (kidneys) through prolonged or repeated exposure (oral)

Precautionary Statements:

P201	Obtain special instructions before use
P202	Do not use until all safety precautions have been read and understood
P260	Do not breath mist, spray, or vapors
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear personal protective equipment as required
P301+P312	IF SWALLOWED: Call a POISON CENTER and get IMMEDIATE MEDICAL ATTENTION.

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330	Rinse mouth.
P337+P313	If eye irritation persists: Get medical advice/attention.
P501	Dispose of all contents/containers in accordance with local regulations.

Potential Health Effects

Eyes	May cause eye irritation.
Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Ingestion	May be harmful if swallowed.

NFPA Ratings

Health	2
Flammability	1
Reactivity	0
Specific hazard	N/A

HMIS Ratings

Health	2
Fire	1
Reactivity	0
Personal	C

0 = minimal 1= slight 2=moderate 3= serious 4= severe

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Volume %	CAS #
Ethylene Glycol	>97	107-21-1
Antifreeze Inhibitors*	<3	Proprietary
Dye	<1	N/A

*Chemicals listed are only those ingredients which are not trade secrets, are classified as health hazards and are present above their concentration limits.

4. FIRST-AID MEASURES

Eyes	Immediately rinse with plenty of water for at least 15 minutes and seek medical attention immediately.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Product is not flammable. Use water, fog, foam, carbon dioxide or dry chemical on fires involving this product. Use appropriate media for adjacent fire. Cool unopened containers with water.
Special protective equipment and precautions for firefighters	Do not release runoff from fire control methods to sewers or waterways. Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a

	full face piece operated in pressure-demand or positive-pressure mode. Full protective equipment including self-contained breathing apparatus should be used during a fire. During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Seek medical attention.
Specific hazards arising from the chemical	Closed containers may rupture or explode due to steam pressure build-up when exposed to extreme heat. Water may be used to cool closed containers. May emit toxic fumes (oxides of carbon) under fire conditions. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols.

Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Store only in containers that are resistant to alkaline solutions. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Ethylene Glycol	100 mg/m ³	STEL	ACGIH
	50 ppm 125 mg/m ³	STEL	OSHA

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles, and face shield.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, and full body covering. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Green Liquid
Odor	Mild Sweet Odor
pH	9.5-10.5
Specific gravity	1.127 min.
Freezing point	-12.9°C (8.8°F)
Boiling point	162°C (325°F)
Flash point	Not Flammable
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	10 mmHg at 20°C (68°F)
Vapor density	2.1 (air = 1)
Solubility	Completely soluble in water.
Percent volatile by Volume	NIL

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Storage below 15.5°C (60°F) or above 65.5°C (150°F)
Incompatible Materials	Strong acids, oxidizers.
Hazardous Decomposition Products	Oxides of carbon.

11. TOXICOLOGICAL INFORMATION**Acute Toxicity**

Ethylene Glycol

Skin	LD50 Dermal - rabbit - 10,626 mg/kg
Eyes	Eyes - rabbit - Mild eye irritation - 24 h
Respiratory	Not Available
Ingestion	LD50 Oral - rat - 4,700 mg/kg

Carcinogenicity

IARC	No components 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 components 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 components 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 components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Brief contact is not irritating. Prolonged contact, as well as clothing wetted with material may cause defatting of skin or irritation, seen as local redness with possibility of mild discomfort.
Eyes	Eye burns, watering eyes, redness.
Respiratory	Irritation of nose and/or throat, drowsiness, headache, nausea.
Ingestion	Toxic when swallowed. Lethal dose for adults is 1-2mL per kilogram. Symptoms of exposure may include headache, weakness, confusion, nausea, dizziness, staggering gait, slurred speech, loss of concentration, faintness, vomiting, increased heart rate, decreased blood pressure, difficulty breathing, and pulmonary edema. Severe poisoning may cause death.

Chronic Toxicity	Repeated overexposure may aggravate existing kidney disease. Repeated ingestion may cause kidney damage.
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION**Ecotoxicity***Ethylene Glycol*

Aquatic Vertebrate	LC50 - Oncorhynchus mykiss (rainbow trout) - 18,500 mg/l - 96 h LC50 - Leuciscus idus (Golden orfe) - > 10,000 mg/l - 48 h NOEC - Pimephales promelas (fathead minnow) - 32,000 mg/l - 7 d NOEC - Pimephales promelas (fathead minnow) - 39,140 mg/l - 96 h
Aquatic Invertebrate	EC50 - Daphnia magna (Water flea) - 74,000 mg/l - 24 h NOEC - Daphnia - 24,000 mg/l - 48 h LC50 - Daphnia magna (Water flea) - 41,000 mg/l - 48 h
Terrestrial	Not Available

Persistence and Degradability	Biodegradable.
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Not Available

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residues.
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Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.
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The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	Not Dangerous Goods
TDG	Not Dangerous Goods
IMDG	Not Dangerous Goods
Marine Pollutant	No
IATA/ICAO	Not Dangerous Goods

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Acute Health Hazard
SARA 312	Acute Health Hazard
SARA 313	Not Listed
WHMIS Canada	Class D-2A: Poisonous and infectious material- Other effects- Very toxic Class D-1B: Poisonous and infectious material- Immediate and serious effects- Toxic

16. OTHER INFORMATION

Revision	Date

Disclaimer: We believe that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because we have no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. WE MAKE NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE.