SDS

SAFETY DATA SHEET

Review Date: 05/27/2018

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: ArmorTrac Pre-charged 50/50 Antifreeze
PRODUCT#: 953825050PC

MANUFACTURER/DISTRIBUTOR:
RelaDyne, LLC
8280 Montgomery Road, Suite 101
Cincinnati, OH 45236
888-830-3156
www.reladyne.com

EMERGENCY NUMBER: INFOTRAC 800-535-5053

SECTION 2 HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Acute Tox. 4 (Oral) H302
STOT RE 2 H373

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :

GHS07 GHS08

Signal Word (GHS-US) : Warning

Hazard Statements (GHS-US) :

H302 - Harmful if swallowed
H373 - May cause damage to organs (Kidney) through prolonged or repeated exposure (Oral)

Precautionary Statements (GHS-US) : P260 - Do not breathe mist, spray, vapors.
P264 - Wash hands, forearms, and exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P314 - Get medical advice and attention if you feel unwell.
P330 - If swallowed, rinse mouth.
P501 - Dispose of contents/container according to local, regional, national, territorial,provincial, and international regulations.

Other Hazards

Other Hazards Not Contributing to the Classification: Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

NFPA RATING

Health Hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

Fire Hazard : 1 - Must be preheated before ignition can occur.

Reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

CAS#	INGREDIENTS	% (w/w)	CLASSIFICATION (GHS-US)
107-21-1	Ethylene Glycol	45-50	Acute Tox. 4(oral), H302

			STOT RE 2, H373
7732-18-5	**Deionized water**	**45-55**	**non-hazardous as defined by 29 CFR 1910.1200 (OSHA)**
	Proprietary Additives (Trade Secret)	**1-5**	**non-hazardous as defined by 29 CFR 1910.1200 (OSHA)**

SECTION 4 FIRST AID MEASURES

Inhalation: Move victim to fresh air and provide oxygen if breathing is difficult. Get medical attention.

Skin: Flush exposed area with water and follow by washing with soap if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment. If skin irritation persists after washing, get medical advice.

Eye: Flush eyes with plenty of water while holding eyelids open. Rest eyes for 30 minutes. If redness, burning, blurred vision or swelling occur, transport to nearest medical facility for additional treatment. If eye irritation persists, seek medical advice.

Ingestion: DO NOT take internally. If swallowed, IMMEDIATELY contact a poison control center, emergency treatment center, or physician. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

Physician's Note: IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT!

Ethylene Glycol (EG) and Diethylene Glycol (DEG) intoxication may initially produce behavioral changes, drowsiness, vomiting, diarrhea, thirst, and convulsions. EG and DEG are nephrotoxic. End stages of poisoning may include renal damage or failure with acidosis. Supportive measures, supplemented with hemodialysis if indicated, may limit the progression and severity of toxic effects. May cause cardiopulmonary effects. For ETHYLENE GLYCOL POISONING, intravenous ethanol is a recognized antidotal treatment; other antidotal treatments also exist for ethylene glycol poisoning.

SECTION 5 FIRE FIGHTING MEASURES

Flash Point [Method]: >388 ºF/>198 ºC [Cleveland Open Cup]

Extinguishing Media: Prevent run off from fire control or dilution from entering streams, sewers or drinking water supply. Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO2) to extinguish flames. Do not use a direct stream of water.

Fire Fighting Instructions: Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure, NIOSH approved, self-contained breathing apparatus. This material is non-flammable.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: May burn although not readily ignitable. Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8.

Spill Management: Shut off source of leak if safe to do so. Dike and contain spill.

FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

Environmental Precautions:

Prevent entry to sewers and public waters.

Reporting: U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity to the National Response Center at (800)424-8802.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Do not ingest. Avoid prolonged or repeated contact with eyes, skin or clothing. Avoid breathing of vapors, fumes or mists. Use with adequate ventilation. Wash thoroughly after handling. Avoid heat, open flames, including pilot lights, and strong oxidizing agents. Use explosion-proof ventilation to prevent vapor accumulation. Ground all handling equipment to prevent sparking. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Storage: Do not store in open or unlabeled containers. Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures.

Container Warnings: Keep containers closed when not in use. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations on or near containers.

Incompatible Materials: Strong Acids, Strong Bases, Strong Oxidizers

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ethylene Glycol	**ACGIH TLV**	**Ceiling: 100 mg/m3**
Ethylene Glycol	**OSHA PEL - 1989(revoked)**	**Ceiling: 50 ppmv**

EXPOSURE CONTROLS
Provide adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Eye washes and showers for emergency use. When using product, do not eat, drink, or smoke.

PERSONAL PROTECTION

Personal protective equipment (PPE) selections vary based on potential exposure conditions such as handling practices, concentration and ventilation. Information on the selection of eye, skin and respiratory protection for use with this material is provided below.

Eye Protection: Chemical Goggles or Safety glasses with side shields - If liquid contact is likely.

Skin Protection: Use protective clothing which is chemically resistant to this material. Selection of protective clothing depends on potential exposure conditions and may include gloves, boots, suits and other items. The selection(s) should take into account such factors as job task, type of exposure and durability requirements.

Published literature, test data and/or glove and clothing manufacturers indicate the best protection is provided by: Neoprene, or Nitrile Rubber

Respiratory Protection: If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Types of respirator(s) to be considered in the selection process include:

For Mist:	Air Purifying, R or P style NIOSH approved respirator.
For Vapors:	Air Purifying, R or P style prefilter & organic cartridge, NIOSH approved respirator. Self-contained breathing apparatus for use in environments with unknown concentrations or emergency situations.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance & Odor:	Bright homogenous fuchsia liquid. Mild sweet odor.
Substance Chemical Family:	Ethylene Glycols
Boiling Point:	265 ºF
Flash Point:	>388 ºF/>198 ºC [Cleveland Open Cup]
Freezing Point:	-34 ºF
pH:	9.5 – 10.7
Specific Gravity:	1.11 – 1.13
Solubility:	Soluble in water
NOTE:	The freezing and boiling point values reflect a 50% solution in water at atmospheric pressure.

SECTION 10 REACTIVITY AND STABILITY

Reactivity:	Reacts with strong oxidizers, increase risk of fire
Chemical Stability:	Stable under recommended handling and storage conditions (see section 7)
Incompatible Materials:	Strong Acids, Strong Bases, Strong Oxidizers

Hazardous Decomposition Products:
Thermal decomposition products are highly dependent on combustion conditions. A complex mixture of airborne solids, liquids and gases will evolve when this material undergoes pyrolysis or combustion. Acids, aldehydes, carbon monoxide, carbon dioxide, ketones and other unidentified organic compounds may be formed upon combustion.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity: Dermal LD50 9.5 g/kg (Rabbit)
Oral LD50 4.7 mg/kg (Rat)

Carcinogenicity Classification: Antifreeze/Coolant

NTP: No **IARC:** Not Reviewed **ACGIH:** No **OSHA:** No

Cardiovascular System: Ingestion of large doses can cause metabolic acidosis that results in cardiopulmonary effects.

Developmental Toxicity: Oral exposure of pregnant rats and mice to ethylene glycol has produced birth defects in the offspring.

Kidney: Ingestion of ethylene glycol can cause bladder stones and kidney damage which can be fatal.

Liver: Prolonged and repeated ingestion of ethylene glycol has produced liver damage in rats.

Lungs: Ingestion of large doses can cause metabolic acidosis that results in cardiopulmonary effects.

Whole Animal: Orally, humans are more sensitive to ethylene glycol than rodents. The reported lethal dose range for an adult human is 1 -2 ml/kg, or 1/4 to 1/2 cup.

POTENTIAL HEALTH EFFECTS

Inhalation: In applications where vapors (caused by high temperature) or mists (caused by mixing or spraying) are created, breathing may cause a mild burning sensation in the nose, throat and lungs.

Eye Irritation: If irritation occurs, a temporary burning sensation, minor redness, swelling, and/or blurred vision may result.

Skin Contact: May cause slight irritation of the skin. If irritation occurs, a temporary burning sensation and minor redness and/or swelling may result. Other adverse effects not expected from brief skin contact.

Ingestion: May be harmful or fatal if swallowed. Contains ethylene glycol and/or diethylene glycol which are toxic when swallowed. A lethal dose for an adult is 1 ml per kilogram or about 4 ounces (1/2 cup). Severe kidney damage can occur as a result of ingestion. Ingestion may result in nausea, vomiting and abdominal cramps. Metabolic acidosis and cardiopulmonary effects can occur following ingestion. May cause Central Nervous System (CNS) depression.

Other Effects: Refer to Section 11, Toxicological Information, for specific information on the following effects: Developmental Toxicity

Primary Target Organs: The following organs and/or organ systems may be damaged by overexposure to this material and/or its components: Cardiovascular System, Kidney, Liver, Lungs

Signs and Symptoms: May cause cardiopulmonary effects including rapid respiration and heartbeat, cyanosis and in severe cases, pulmonary edema and pneumonia. Early to moderate CNS depression may be evidenced by giddiness, headache, dizziness and nausea. In extreme cases, unconsciousness and death may occur. Kidney damage may be indicated by changes in urine output or appearance, pain upon urination or in the lower back or general edema (swelling from fluid retention). Liver damage may be indicated by loss of appetite, jaundice (yellowish skin and eye color), fatigue and sometimes pain and swelling in the upper right abdomen.

Aggravated Medical Conditions: Pre-existing eye, skin, respiratory, liver and kidney disorders and may be aggravated by exposure to this product.

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Ethylene glycol (107-21-1)

LC50 Fish 1	41000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)(rainbow trout)
EC50 Daphnia 1	46300 mg/l (Exposure time: 48 h - Species: Daphnia magna)(water flea)
EC50 Other Aquatic Organisms 1	6500 - 13000 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata)
LC 50 Fish 2	14 - 18 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)

Persistence and Degradability: Not available

Bioaccumulative Potential

Ethylene glycol (107-21-1)

Log Pow -1.93

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13 DISPOSAL CONSIDERATIONS

RCRA Information:
Under RCRA, it is the responsibility of the user of the material to determine, at the time of the disposal, whether the material meets RCRA criteria for hazardous waste. This is because material uses, transformations, mixtures, processes, etc. may affect the classification. Refer to the latest EPA, state and local regulations regarding proper disposal. Follow all applicable laws and regulations. Used antifreeze recycling is recommended. Do not drain on the ground or into storm drainage systems. Do not dispose in sanitary sewer systems except where permitted by law.

SECTION 14 TRANSPORT INFORMATION

US Department of Transportation Classification:
This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less. If shipped in a container of over 119 gallon capacity then the DOT information must be accompanied with RQ notation, or, an otherwise 'Not Regulated' product will be classified as Environmentally Hazardous (solid/liquid) N.O.S., Class 9, Packing group III unless the product qualifies for the petroleum exemption (49 CFR 171.8).

Hazardous Substance/Material RQ:	Ethylene glycol / 10539.7068 lbs

International Air Transport Association

Hazard Class/Division:	9 (Miscellaneous)
Identification Number:	UN3082
Packing Group:	III
Proper Shipping Name:	Environmentally Hazardous Substances, liquid, N.O.S.
Technical Name(s):	Ethylene Glycol

International Maritime Organization Classification

Hazard Class/Division:	9 (Miscellaneous)
Identification Number:	UN3082
Packing Group:	III
Proper Shipping Name:	Environmentally Hazardous Substances, Liquid, N.O.S.
Technical Name(s):	Ethylene Glycol

SECTION 15 REGULATORY INFORMATION

FEDERAL REGULATORY STATUS

OSHA Classification: Product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Comprehensive Environmental Release, Compensation & Liability Act (CERCLA):

Ethylene Glycol: RQ 5,000 lbs Reportable Spill => 10,540 lbs or 1,264 gal

Ozone Depleting Substances (40 CFR 82 Clean Air Act):
This material does not contain nor was it directly manufactured with any Class I or Class II ozone depleting substances.

Superfund Amendment & Reauthorization Act (SARA) Title III:
There are no components in this product on the SARA 302 list.

SARA Hazard Categories (311/312):

Immediate Health: YES **Delayed Health:** YES **Fire:** NO **Pressure:** NO

Reactivity: NO

SARA Toxic Release Inventory (TRI) (313): Ethylene Glycol, Diethylene Glycol

Toxic Substances Control Act (TSCA) Status:
All component(s) of this material is(are) listed on the EPA/TSCA Inventory of Chemical Substances.

Other Chemical Inventories:
Component(s) of this material is (are) listed on the Australian AICS, Canadian DSL, Chinese Inventory, European EINECS, Korean Inventory, Philippines PICCS.

State Regulation:
The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

US State Regulations

Ethylene glycol (107-21-1)

U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Illinois - Toxic Air Contaminants
U.S. - Louisiana - Reportable Quantity List for Pollutants

U.S. - Maine - Air Pollutants - Hazardous Air Pollutants
U.S. - Massachusetts - Allowable Ambient Limits (AALs)
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
U.S. - Massachusetts - Drinking Water Guidelines
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Threshold Effects Exposure Limits (TELs)
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - Ceilings
U.S. - Michigan - Polluting Materials List
U.S. - Minnesota - Groundwater Health Risk Limits
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - Ceilings
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Water Quality - Ground Water Quality Criteria
U.S. - New Jersey - Water Quality - Practical Quantitation Levels (PQLs)
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
U.S. - Tennessee - Occupational Exposure Limits - Ceilings
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - Ceilings
U.S. - Washington - Permissible Exposure Limits - Ceilings
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions from Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions from Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions from Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants – All Sources – Emissions from Stack Height Less Than 25 Feet

SECTION 16 OTHER INFORMATION

Fourth Revision
Review Date: 05/27/2015
Revision Date: 06/05/2018
Revisions since last change (discussion): This Safety Data Sheet (SDS) has been prepared in accordance with SDS requirements of the OSHA Hazardous Communication Standard 29 CFR 1910.1200. We encourage you to take the opportunity to read the SDS and review the information contained therein. 06/05/2018 updated Section 1.
GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4

STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H373	May cause damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life

DISCLAIMER OF LIABILITY

The information in this SDS was obtained from sources which we believe are reliable. ***HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESSED OR IMPLIED, REGARDING ITS CORRECTNESS.***

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. ***FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.***

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