



# MATERIAL SAFETY DATA SHEET

## VGAP-700 Virgin Glycol Antifreeze Add Pak

**Additives Inc.**  
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MSDS No: 100008  
Ver. No: 1  
Ver. Date: 11/14/03

**24-HOUR EMERGENCY NUMBERS:**  
PERS 1-800-633-8253  
INT'L PERS 1-801-629-0667  
**CUSTOMER SERVICE:**  
303-292-0595

### National Fire Protection Association

|   |              |
|---|--------------|
| 3 | Health       |
| 0 | Flammability |
| 2 | Reactivity   |
|   | Special      |

### WHMIS: Class E



Corrosive

### Protective Equipment:



## SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product/Chemical Name:** VGAP-700  
**Product Description:** Virgin Glycol Add Pak  
**Chemical Name:** Mixture  
**Chemical Family:** Alkaline aqueous solution of inorganic and organic corrosion inhibitors.  
**Chemical Formula:** Mixture  
**CAS Registry:** Mixture  
**Other Designations:** None  
**General Use:** Inhibitor package for automotive antifreeze or additive package for automotive antifreeze/coolant.  
**Manufacturer:** Additives Inc., 5915 N. Broadway, Denver, CO 80216, Phone (303) 292-0595  
 FAX (303) 292-0429 (Hours of operation: Mon-Fri 8:00am-5:00pm MST)  
 24-hour Emergency Number: PERS 800-633-8253 Customer Service: 303-292-0595  
 24-hour International Emergency Number: PERS 801-629-0667

## SECTION 2 – COMPOSITION / INFORMATION ON INGREDIENTS

| <u>MATERIAL</u>                | <u>CAS No</u>  | <u>% WT</u> | <u>OSHA PEL</u>                |
|--------------------------------|----------------|-------------|--------------------------------|
| Potassium hydroxide (45%)      | 1310-58-3      | 1-5%        | 2mg/m <sup>3</sup> (CEILING)   |
| Sodium Tolytriazole            | 64665-57-2     | 1-5%        | Not applicable                 |
| Proprietary inhibitors         | Not Applicable | <10%        | Not applicable                 |
| Monoethanolamine               | 141-43-5       | 15-30%      | 8 mg/m <sup>3</sup>            |
| Sodium Tetraborate Decahydrate | 1330-96-4      | <5%         | 5mg/m <sup>3</sup> (TLV AGCIH) |
| Water                          | 7732-18-5      | Balance     | Not applicable                 |

### SECTION 3 – HAZARDOUS IDENTIFICATION

**Health:** 3  
**Flammability:** 0  
**Reactivity:** 2  
**Special:** 0  
0 = minimal 1= slight 2=moderate 3= serious 4= severe

|                        |
|------------------------|
| <b>HMIS</b>            |
| <b>H # 3</b>           |
| <b>F # 0</b>           |
| <b>R # 2</b>           |
| <b>PPE† E</b>          |
| <small>†Sec. 8</small> |

#### Route(s) of Entry

**Inhalation:** Airborne concentrations of mist or spray may cause damage to the upper respiratory tract and even to lung tissue. Vapor/fumes are not generated at significant levels until temperature is elevated.

**Skin:** Destructive to tissues contacted and produces severe burns. The severity of damage and extent of irreversibility increases with length of contact time.

**Ingestion:** Swallowing can cause severe burns and tissue perforation of mucous membranes of the mouth, throat, esophagus and stomach.

**Eyes:** Destructive to eye tissue on contact.

**Target Organs:** None known

**Effects of overexposure:** This solution of antifreeze inhibitors is an alkaline irritant and corrosive with a pH of 12-14. Prolonged contact can be destructive to tissue. Contact with the eyes may damage delicate eye tissue. Ingestion will cause mouth, throat and gastrointestinal irritation. Sodium nitrite can cause cyanosis, headache, dizziness, nausea and methemoglobinemia. Inhalation of harmful levels of vapors is unlikely due to the relatively low vapor pressure and the relatively low concentrations of ingredients.

**Effects of overexposure:** Acute: The high pH of this product makes it harmful to all body tissue with which it comes into direct contact. The signs of local exposure usually include areas of superficial destruction of the skin, often painful and/or primary irritant dermatitis. Chronic: None known.

#### Medical Conditions Generally Aggravated by Long-Term Exposure:

**Exposure:** None expected.  
**Chronic Effects:** None known

#### Carcinogenicity

**NTP:** None known  
**IARC Monographs:** None known  
**OSHA Regulations:** None known  
**ACGIH** None known

### SECTION 4 – FIRST AID MEASURES

**Emergency and First Aid Procedures:**

**Eye contact:** Flush eyes with large amounts of water for 15 minutes. If irritation persists, get medical attention.

**Skin contact:** Wash affected area thoroughly with soap and water. Remove contaminated clothing, rings, etc.

**Ingestion:** Toxic if swallowed. Induce vomiting immediately and seek medical attention.

**Inhalation:** Remove to fresh air. If breathing has stopped, start artificial respiration. Seek medical attention.

**Note to Physicians:** Treat symptomatically  
**Special Precautions/Procedures:** None known

## SECTION 5 – FIRE-FIGHTING MEASURES

|                                               |                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unusual Fire Fighting procedures:</b>      | None required; non-flammable product                                                                                                                                                                                                                                                                                             |
| <b>Flash Point:</b>                           | None detected                                                                                                                                                                                                                                                                                                                    |
| <b>Flash Point Method:</b>                    | Pensky Martens                                                                                                                                                                                                                                                                                                                   |
| <b>Burning Rate:</b>                          | Does not burn                                                                                                                                                                                                                                                                                                                    |
| <b>Auto ignition Temperature:</b>             | Not available                                                                                                                                                                                                                                                                                                                    |
| <b>Flammable limits in air (% by volume):</b> | Not applicable                                                                                                                                                                                                                                                                                                                   |
| <b>LEL:</b>                                   | Not applicable                                                                                                                                                                                                                                                                                                                   |
| <b>UEL:</b>                                   | Not applicable                                                                                                                                                                                                                                                                                                                   |
| <b>Flammability Classification:</b>           | Not flammable                                                                                                                                                                                                                                                                                                                    |
| <b>Extinguishing Media:</b>                   | Water, fog, foam, CO <sub>2</sub> , dry chemical                                                                                                                                                                                                                                                                                 |
| <b>Unusual Fire or Explosion Hazards:</b>     | 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.                                                                                                                                                                               |
| <b>Fire-Fighting Instructions;</b>            | Do not release runoff from fire control methods to sewers or waterways.                                                                                                                                                                                                                                                          |
| <b>Fire-Fighting Equipment:</b>               | Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode.                                                                                                                                     |
| <b>Unusual Fire Fighting procedures:</b>      | Full protective equipment including self-contained breathing apparatus should be used when Additive Inc. Antifreeze Additive Solution is present during a fire. During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Seek medical attention. |



## SECTION 6 – ACCIDENTAL RELEASE MEASURES

|                                 |                                                                                                                                                                                           |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Spill/Leak Procedures:</b>   | Recover usable material by convenient method; residual may be removed by wipe or wet mop                                                                                                  |
| <b>Small Spills:</b>            | Small spills should be absorbed with a suitable inert material (sand, earth, clay, etc.). Remove the absorbed material and place in an appropriate chemical waste container for disposal. |
| <b>Large Spills:</b>            | For large spills, dike and pump into suitable containers. Clean up residual water.                                                                                                        |
| <b>Containment:</b>             | For large spills, dike far ahead of liquid spill for later disposal.                                                                                                                      |
| <b>Regulatory Requirements:</b> | Follow applicable Federal, State and Local regulations.                                                                                                                                   |

## SECTION 7 – HANDLING AND STORAGE

|                              |                                                                                                                                        |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Handling Precautions</b>  | Wear impermeable gloves and other protective clothing to avoid prolonged or repeated skin contact. When handling, wear eye protection. |
| <b>Storage Requirements:</b> | Keep containers tightly closed when not in use. Store only in containers that are resistant to alkaline solutions with a pH of 12-14.  |

## SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

|                                |                                                                                                                                                                                                           |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Engineering Controls</b>    |                                                                                                                                                                                                           |
| <b>Ventilation:</b>            | Provide general or local exhaust ventilation systems.                                                                                                                                                     |
| <b>Administrative Controls</b> |                                                                                                                                                                                                           |
| <b>Respiratory Protection:</b> | If personal exposure cannot be controlled below applicable exposure limits by ventilation, wear respiratory devices approved by NIOSH/MSHA, for protection against organic vapors, dust, fumes and mists. |

**Protective Clothing/Equipment:** Where skin contact may occur, chemical-impervious gloves should be worn.

Use chemical goggles or full face shield when the danger of splashing exists. Rubber apron or similar protective clothing to prevent contact with skin or clothes.



**Work and Hygienic Practices:**

**Safety Stations:**

**Contaminated Equipment:**

**Comments:**

Wash or rinse hands before touching eyes or contact lenses, and before eating. Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Avoid contact with skin, eyes and clothing. Do not take internally. Clean up spills immediately. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

### SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

|                                             |                                                       |
|---------------------------------------------|-------------------------------------------------------|
| <b>Appearance and odor:</b>                 | Cloudy to milky translucent liquid with an amine odor |
| <b>Boiling Point (760 mm Hg):</b>           | 175-330°F                                             |
| <b>Specific Gravity (water =1):</b>         | 1.040-1.060                                           |
| <b>Vapor Density (air =1):</b>              | <1                                                    |
| <b>Percent Volatile by Volume:</b>          | 80%                                                   |
| <b>Evaporation Rate (butyl acetate =1):</b> | <1                                                    |
| <b>Solubility in Water (% by wt):</b>       | 100%                                                  |
| <b>Vapor Pressure (at 20°C):</b>            | 12-14mm Hg                                            |
| <b>pH:</b>                                  | 12.5-13.5                                             |

### SECTION 10 – STABILITY AND REACTIVITY

|                                          |                                                                                                                                                                                     |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Stability:</b>                        | Stable                                                                                                                                                                              |
| <b>Polymerization:</b>                   | Will not occur.                                                                                                                                                                     |
| <b>Chemical Incompatibilities:</b>       | Strong oxidizing agents, strong acids.                                                                                                                                              |
| <b>Conditions to Avoid:</b>              | Strong oxidizing agents, strong acids.                                                                                                                                              |
| <b>Hazardous decomposition products:</b> | If involved in a fire the following decomposition products may be generated: Carbon dioxide, carbon monoxide, nitrogen oxides, hydrogen cyanide (possible in reducing atmospheres). |

### SECTION 11 – TOXICOLOGICAL INFORMATION

|                                  |                                                                                                                                                                                                      |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye Effects:</b>              | Destructive to eye tissue on contact.                                                                                                                                                                |
| <b>Skin Effects:</b>             | Destructive to tissues contacted and produces severe burns. The severity of damage and extent of irreversibility increases with length of contact time.                                              |
| <b>Acute Inhalation Effects:</b> | Airborne concentrations of mist or spray may cause damage to the upper respiratory tract and even to lung tissue. Vapor/fumes are not generated at significant levels until temperature is elevated. |
| <b>Acute Oral Effects:</b>       | Swallowing can cause severe burns and tissue perforation of mucous membranes of the mouth, throat, esophagus and stomach.                                                                            |
| <b>Chronic Effects:</b>          | None known                                                                                                                                                                                           |
| <b>Carcinogenicity:</b>          | Neither product nor its ingredients are listed by IARC, NTD or OSHA                                                                                                                                  |
| <b>Mutagenicity:</b>             | Not mutagenic                                                                                                                                                                                        |
| <b>Teratogenicity:</b>           | Not Teratogenic                                                                                                                                                                                      |

## SECTION 12 – ECOLOGICAL INFORMATION

|                                   |                                                                    |
|-----------------------------------|--------------------------------------------------------------------|
| <b>Ecotoxicity:</b>               | Not determined                                                     |
| <b>Environmental Fate:</b>        | Decomposes to carbon, oxygen, nitrogen, phosphate salts and water. |
| <b>Environmental Degradation:</b> | Biodegradable                                                      |
| <b>Soil Absorption/Mobility:</b>  | Not determined                                                     |

## SECTION 13 – DISPOSAL CONSIDERATIONS

|                                          |                                                                                                                                           |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Waste disposal method:</b>            | Sanitary landfill or incinerate in approved facilities in accordance with local, state and federal regulations.                           |
| <b>Disposal Regulatory Requirements:</b> | Shipments of waste material may be classified as hazardous and subject to manifesting requirements through applicable regulatory agency.  |
| <b>Container Cleaning and Disposal:</b>  | Containers should be cleaned of residual product before disposal, and disposed of in accordance with all applicable laws and regulations. |

## SECTION 14 – TRANSPORT INFORMATION

|                           |                                                 |
|---------------------------|-------------------------------------------------|
| <b>DOT Shipping Name:</b> | Corrosive Liquids, N.O.S. (Potassium hydroxide) |
| <b>Shipping Symbols:</b>  |                                                 |



|                                            |                                                                 |
|--------------------------------------------|-----------------------------------------------------------------|
| <b>Hazard Class:</b>                       | 8 (Corrosive Liquids, N.O.S.)                                   |
| <b>DOT Identification No.:</b>             | UN 1760                                                         |
| <b>Packing Group:</b>                      | III                                                             |
| <b>Label:</b>                              | Danger: corrosive; causes burns and irritation to skin and eyes |
| <b>DOT Class</b>                           | 70                                                              |
| <b>Packaging Authorizations</b>            |                                                                 |
| a) <b>Exceptions:</b>                      | Not applicable                                                  |
| b) <b>Non-bulk Packaging:</b>              | Not applicable                                                  |
| c) <b>Bulk Packaging:</b>                  | Not applicable                                                  |
| <b>Quantity Limitations</b>                |                                                                 |
| a) <b>Passenger, Aircraft, or Railcar:</b> | One liter                                                       |
| b) <b>Cargo Aircraft Only:</b>             | One liter                                                       |
| <b>Vessel Stowage Requirements</b>         |                                                                 |
| a) <b>Vessel Stowage:</b>                  | Not applicable                                                  |
| b) <b>Other:</b>                           | Not applicable                                                  |

## SECTION 15 – REGULATORY INFORMATION

|                                                                      |                                                                          |
|----------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>EPA Regulations</b>                                               |                                                                          |
| RCRA Hazardous Waste Number and RCRA Hazardous Waste Classification: | Not applicable                                                           |
| CERCLA Hazardous Substance and CERCLA Reportable Quantity:           | Not applicable                                                           |
| SARA Toxic Chemical and SARA EHS:                                    | Reportable under SARA Title III (40 CFR, Part 370)                       |
| <b>OSHA Regulations:</b>                                             | Must comply with OSHA standard 29 CFR 1910.1200 (employee right to know) |

## SECTION 16 – OTHER INFORMATION

**Prepared By:** Additives, Inc.

**Additional Hazard Rating Systems:** None

**Disclaimer: THE INFORMATION GIVEN HEREIN IS GIVEN IN GOOD FAITH AND FROM SOURCES WE BELIEVE RELIABLE. BUT NO WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS IS MADE.**

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