1.0 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product: **PAVEGRIP** PA-30 asphalt additive
Product use: Asphalt antistripping additive

Company: UNIQUE Paving Materials Corporation
3993 East 93rd Street
Cleveland, Ohio 44105

Emergency Telephone Numbers: (800) 441-4880 (8:00 am-4:30 pm Mon-Fri)
Within USA and Canada: (800) 424-9300 CHEMTREC
Outside USA and Canada: (703) 527-3887 (collect calls accepted)

2.0 HAZARDS IDENTIFICATION

Overall Exposure Effects:

EYE: May cause moderate eye irritation. Vapor or mist may cause eye irritation.

SKIN: Prolonged or repeated exposure may cause skin irritation, even a burn. May cause drying and flaking of the skin. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Repeated skin contact may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in absorption of potentially lethal amounts. For triethanolamine, skin contact may cause an allergic skin reaction in a small proportion of individuals.

INGESTION: In humans, expected to be moderately toxic if swallowed even though oral toxicity was low when tested in animals. Swallowing may result in severe effects, even death. May cause nausea or vomiting. May cause abdominal discomfort or diarrhea. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. May cause dizziness and drowsiness.

INHALATION: At room temperature, exposure to vapor is minimal due to low volatility. with good ventilation, single exposure is not expected to cause adverse effects. If material is heated or areas are poorly ventilated, vapor/mist may accumulate and cause respiratory irritation and symptoms such as headache and nausea. Prolonged exposure to vapors generated by heated material may cause death.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Repeated excessive exposure may cause irritation of the upper respiratory tract. For diethylene glycol, effects have been observed on the central nervous system, kidney and liver. In humans, symptoms may include headache, nausea and abdominal discomfort. In animals, effects have been observed on the bladder and gastrointestinal tract. For ethylene glycol: In humans, effects have been reported on the following organs: central nervous system. Observations in humans include: nystagmus (involuntary eye movement). For some components, in animals, effects have been reported on the following organs: kidney, liver.

CANCER INFORMATION: Contains component(s) which did not cause cancer in laboratory animals. The component(s) is/are triethanolamine and triethylene glycol. Ethylene glycol did not cause cancer in long-term animal studies. Diethylene glycol has been tested for carcinogenicity in animal studies and is not believed to pose a carcinogenic risk to man.

TERATOLOGY (BIRTH DEFECTS): Diethylene glycol has cause toxicity to the fetus and some birth defects at maternally toxic, high doses in animals. Other animal studies have not reproduced birth defects even at much higher doses that caused severe maternal toxicity. Based on animal studies, ingestion of very large amounts of ethylene glycol appears to be the major and possibly only route of exposure to produce birth defects. Exposures by inhalation or skin contact, the primary routes of occupational exposure, had minimal effect on the fetus, in animal studies. Triethylene glycol did not cause birth defects in animals; other effects were seen in the fetus only at very high doses which caused toxic effects to the mother. For triethanolamine, screening studies in animals suggest that this material does not affect fetal development.
REPRODUCTIVE EFFECTS: Ingestion of large amounts of ethylene glycol has been shown to interfere with reproduction in animals. Diethylene glycol did not interfere with reproduction in animal studies except at very high doses. Contains component(s) which did not interfere with reproduction in animal studies. The component(s) is/are triethylene glycol

Primary Routes of Entry:

Inhalation ..... Severe Irritant
Skin..... Irritant
Ingestion ..... Harmful or Fatal if Swallowed

Carcinogenicity:

NTP..... No
IARC ..... No
OSHA..... No

Hazardous Materials Identification System Rating:

Health 2
Flammability..... 1
Reactivity 0

3.0 COMPOSITION/INFORMATION ON INGREDIENTS

No		CAS REG NO	WEIGHT (%)
1	Proprietary Glycol Amine Mixture	Proprietary	100

4.0 FIRST AID MEASURES

EYE CONTACT: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention. (If easy to do, remove contact lenses, if worn). Get medical attention immediately.

SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Destroy contaminated shoes. If shoes are not completely contaminated, thoroughly clean shoes before reuse

3993 E. 93rd Street ı Cleveland, OH 44105 ı Phone 800.441.4880 ı Fax 216.341.8514 ı UniquePavingMaterials.com

INHALATION: Remove victim to fresh air and, if needed, immediately begin artificial respiration. Give Oxygen if breathing is labored. Get emergency medical help. Contact physician immediately.

INGESTION: DO NOT induce vomiting. Get medical attention immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person. If medical advice is delayed and if an adult has swallowed several ounces of chemical, then give 3-4 ounces of hard liquor such as 80 proof whiskey. For children, give proportionately less liquor at a dose of 0.3 ounces liquor for each 10 pounds of body weight, or 2 ml per kg of body weight.

NOTE TO PHYSICIAN: If several ounces of ethylene glycol have been ingested, early administration of ethanol may counter the toxic effects (metabolic acidosis, renal damage). Consider hemodialysis or peritoneal dialysis and thiamine 100 mg + pyridoxine 50 mg IV every 6 hours. If ethanol is used, a therapeutically effective blood concentration in the range of 100-150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-methyl pyrazol (Antizol) ® is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol, di- or triethylene glycol, ethylene glycol butyl ether, or methanol intoxication if available. Fomepizole protocol (Brent, J et al. New Eng J Med Feb 8, 2001 344:6, p 424-0): loading dose 15 mg/kg IV, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, ethylene glycol, diethylene glycol or triethylene glycol are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, central nervous system depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary adema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach.

5.0 FIRE-FIGHTING MEASURES

Flash Point: 342° F, 172° C (Setaflash method)

Flammable Limits:

Lower ..... ND
Upper ..... ND

Extinguishing Media: Water fog or fine spray, Foam, Dry Chemical, Carbon Dioxide (CO_2). Do not use direct water stream. Alcohol resistant foams are preferred.

Unusual Fire Hazard: Containers may explode from internal pressure if confined to fire. Cool with water. Keep unnecessary people away.

6.0 ACCIDENTAL RELEASE MEASURES

Spill or Leak: In case of spillage, absorb with inert material such as kitty litter. Sweep up, place in a DOT approved container, and dispose of in accordance with applicable federal, state, and local regulations.

3993 E. 93rd Street ı Cleveland, OH 44105 ı Phone 800.441.4880 ı Fax 216.341.8514 ı UniquePavingMaterials.com

7.0 HANDLING AND STORAGE

Precautionary Handling: Do not get in eyes, on skin, or on clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing and shoes. If needed, take emergency first aid action shown in this Material Safety Data Sheet.

Storage: Store away from acids. Store away from potable water supply. Do not store in copper, copper alloys, galvanized containers.

8.0 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:

Mechanical ..... Desired in closed places
Local ..... Recommended

Respiratory Protection: Not required under normal conditions in a well-ventilated workplace. If vapors or mists are generated, wear a NIOSH/MSHA approved organic vapor/mist respirator.

Eye Protection: Use goggles and/or face shield if splashing is likely

Protective Clothing: Wear impervious gloves, apron

Threshold Limit Value: None established for this blend or its components

Exposure Guidelines: **Ethylene glycol**: ACGIH TLV is 100 mg/m3 aerosol, Ceiling, A4. The interim IHG is 100 mg/m3 Ceiling, aerosol and vapor.
Diethylene glycol: AIHA WEEL is 10 mg/m3, (8-hr TWA). Interim IHG is 50 ppm aerosol and vapor, 10 mg/m3 aerosol.
Triethanolamine: ACGIH TLV is 5 mg/m3 TWA.
Tetraethylene glycol: AIHA WEEL is 10 mg/m3 for polyethylene glycols, aerosol.
Triethylene glycol: AIHA WEEL is 10 mg/m3 for polyethylene glycols, aerosol. The interim IHG is 100 mg/m3.”Interim IHGS” are occupation exposure limits set by the original owner of this product.

3993 E. 93rd Street ı Cleveland, OH 44105 ı Phone 800.441.4880 ı Fax 216.341.8514 ı UniquePavingMaterials.com

9.0 PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor:……..Dark Viscous Liquid. Ammoniacal Odor.
Boiling Point:……..387° F
Freezing Point:……ND
Vapor Pressure (mmHg):……...<0.1
Vapor Density (Air = 1):……..>1
pH Value:……..Alkaline
Solubility in Water:……..Complete
Specific Gravity (Water = 1):…….1.12 @ 25° C

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10.0 STABILITY AND REACTIVITY

Chemical Stability: Stable

Conditions to Avoid: Avoid contact with Oxidizers or Oxidizing Materials. Avoid contact with Acids.

Incompatible Materials: Oxidizers or Oxidizing Materials. Strong Acids.

Decomposition Products: From Fire: Smoke, Carbon Dioxide, Carbon Monoxide, Oxides of Nitrogen, Oxides of Ammonia, Sodium

Hazardous Polymerization: Will Not Occur

Polymerization Avoid: None

11.0 TOXICOLOGICAL INFORMATION

Acute oral toxicity	LD50 has not been determined
Acute dermal toxicity	LD50 has not been determined
Mutagenicity	For the components tested, in vitro mutagenicity studies were negative. Animal studies were negative.

12.0 ECOLOGICAL INFORMATION

N/A

3993 E. 93rd Street ı Cleveland, OH 44105 ı Phone 800.441.4880 ı Fax 216.341.8514 ı UniquePavingMaterials.com

13.0 DISPOSAL CONSIDERATIONS

Waste Disposal Method: Hazardous Waste. Follow Federal and State and Local Regulations for Hazardous Waste Disposal.

EPA Hazard Waste Codes: DOO2 - Characteristic of Corrosivity

14.0 TRANSPORT INFORMATION

DOT Non-Bulk

NOT REGULATED

DOT Bulk

Proper Shipping Name: OTHER REGULATED SUBSTANCES, LIQUID, NOS
Technical Name: CONTAINS ETHYLENE GLYCOL
Hazard Class: 9 ID Number: NA 3082 Packing Group: PG III

IMDG

NOT REGULATED

ICAO/IATA

NOT REGULATED

Additional Information
Reportable quantity: 5,000 lb – ETHYLENE GLYCOL
This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15.0 REGULATORY INFORMATION

Notice: The following information is presented in good faith and is believed to be accurate, as of the revised date shown above. No warranty is therefore, expressed or implied. Regulatory information requirements are subject to change as governmental regulations change.

US Regulations

SARA 13 Information: This product contains the following substances subject to the reporting requirements of section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR

Chemical Name: Ethylene glycol CAS#: 000107-21-1 Concentration: <10%

SARA Hazard Category: This product has been reviewed according to the EPA "Hazard Categories" promulgated under section 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard

****

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

****

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

Chemical Name	CAS Number	List
Ethanol, 2,2', 2'-Nitrilotris	000102-71-6	PA1
Ethylene Glycol	000107-21-1	PA3 PA1
Diethylene Glycol	000111-46-6	PA1
Triethylene Glycol	000112-27-6	PA1

PA1 = Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%)
PA3 = Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%)

****

OSHA HAZARD COMMUNICATION STANDARD:

This product contains a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200

****

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND):

This product contains the following substance(s) listed as "Hazardous Substances" under CERCLA which may require reporting of releases:

Chemical Name: Ethylene glycol CAS#: 000107-21-1 RQ: 5,000 lbs % in product: 0-10%

3993 E. 93rd Street ı Cleveland, OH 44105 ı Phone 800.441.4880 ı Fax 216.341.8514 ı UniquePavingMaterials.com

16.0 OTHER INFORMATION

Hazard Rating		
	HMIS	NFPA
Health	2	2
Fire	1	1
Reactivity	0	0

*** = Chronic**

.

ABBREVIATIONS:
ACGIH = American Conference of Governmental Industrial Hygienists
OSHA = Occupational Safety and Health Administration
TLV = Threshold Limit Value
PEL = Permissible Exposure Limit
TWA = Time Weighted Average
STEL = Short-Term Exposure Limit
BAc = Butyl acetate

DISCLAIMER OF LIABILITY - The information on the SDS was obtained from sources which we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and 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. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Revision date: 4/01/14

This document contains confidential proprietary and trade secret information of UNIQUE Paving Materials Corp., and copying, dissemination, or use by anyone other than UNIQUE'S intended recipient is strictly prohibited by law.

3993 E. 93rd Street ı Cleveland, OH 44105 ı Phone 800.441.4880 ı Fax 216.341.8514 ı UniquePavingMaterials.com