W. R. GRACE MATERIAL SAFETY DATA SHEET

Product Name: ADVA® 140 MSDS ID Number: D-06476

MSDS Date: 01/20/2009

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

| Product Name: | ADVA® 140 |
|-----------------------------------|------------------------|
| MSDS Number: | D-06476 |
| Cancelled MSDS Number: | D-06398 |
| MSDS Date: | 01/20/2009 |
| Chemical Family Name: | Carboxylated Polyether |
| Product Use: | Concrete Additive |
| Chemical Formula: | Mixture-NA |
| CAS # (Chemical Abstracts Service | Mixture-NA |
| Number): | |
| Manufactured by: | |
| W.D.Crass & Co. Conn | Crass Canada Ina |

| W.R.Grace & CoConn. | Grace Canada, Inc. |
|----------------------|------------------------|
| 62 Whittemore Avenue | 294 Clements Road West |
| Cambridge, MA 02140 | Ajax, Ontario L1S 3C6 |

In Case of Emergency Call:

In USA: (617) 876-1400 In Canada: (905) 683-8561

| SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS | | |
|--|-------------|---------------|
| Ingredient | CAS# | Percent (max) |
| Q Description of the second of the second structure of the second s | 000040.05.0 | 4.40 |

| 2-Propenoic acid, polymer with methyloxirane polymer, Sodium salt | 220849-25-2 | 1-10 |
|---|-------------|------|
| Ethylene oxide-Propylene oxide copolymer monobutyl ether | 009038-95-3 | 1-10 |

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview:

Caution! Causes eye irritation. Causes skin irritation. May be harmful if ingested.

HMIS Rating:

| Health: | 1 |
|--------------------------------|-------------------|
| Flammability: | 1 |
| Reactivity: | 0 |
| Personal Protective Equipment: | B (See Section 8) |
| | |

Potential Health Effects:

Inhalation: If inhaled as a vapor or mist, causes respiratory tract irritation. If prolonged exposure occurs effects may be more severe resulting in coughing and breathing difficulties.

Effects include: No other effects expected unless listed below.

Eye Contact: Eye contact causes irritation.

Skin Contact: Skin contact causes irritation.

Prolonged skin contact can result in irritation causing redness and itching.

May cause sensitization.

Skin Absorption: Not expected to be harmful if absorbed through the skin.

Ingestion: Harmful if ingested.

Effects include: Nausea, pain, vomiting, diarrhea and digestive tract irritation.

SECTION 4 - FIRST AID MEASURES:

Skin Contact: Wash with soap and water.

If discomfort or irritation persists, consult a physician.

Remove contaminated clothing and wash before reuse.

Eye Contact: Flush eyes with water for at least 15 minutes while holding eyelids open.

If discomfort or irritation persists, consult a physician.

Ingestion: Do not induce vomiting.

Never give anything by mouth to an unconscious person.

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Reactivity:

MSDS Date: 01/20/2009

If discomfort or irritation persists, consult a physician.

Inhalation: If symptoms develop, get fresh air. If symptoms persist, consult a physician. If breathing has stopped, give artificial respiration then oxygen if needed.

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| SECTION 5 - FIRE AND EXPLOSION HAZAR | ARD DATA |
|---|------------------------------|
| Flash Point: | >200°F |
| Flash Point Method: | Estimated (Aqueous solution) |
| Lower Explosion Limit: | Not Available |
| Upper Explosion Limit: | Not Available |
| Auto-Ignition Temperature: | Not Available |
| NFPA Rating: | |
| Health: | 1 |
| Flammability: | 1 |

Extinguishing Media: In case of fire, use water spray, dry chemical, Carbon dioxide or foam. **Special Fire Fighting Procedures:** Wear self-contained breathing apparatus and complete personal protective equipment when potential for exposure to vapors or products of combustion exist. Water may be used to cool containers to prevent pressure build-up and possible auto-ignition or explosion. Avoid breathing hazardous vapors or products of combustion, keep upwind. Isolate area and keep unnecessary people away. Prevent run-off from fire control or dilution from entering streams or drinking water supplies.

Unusual Fire and Explosion Hazards: None unless noted below.

SECTION 6 - ACCIDENTAL RELEASE MEASURES:

Spills/Leaks: Use proper personal protective equipment. Do not flush to sewer or allow to enter waterways. Keep unnecessary people away.

Contain and/or absorb spill with inert material (i.e. sand, vermiculite) then place in a suitable container. For large spills, dike area and pump waste material into closed containers for disposal or reclamation.

SECTION 7 - HANDLING AND STORAGE

Precautionary Measures: Avoid contact with eyes, skin and clothing. Do not take internally. Practice good personal hygiene to avoid ingestion. Use only with adequate ventilation. Wash clothing before reuse. FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT

EXPOSURE GUIDELINES (US)

| Ingredient | ACGIH TLV | | OSHA PEL | | | Other | |
|--|-----------|------|----------|-----|------|---------|---|
| | TWA | STEL | Ceiling | TWA | STEL | Ceiling | |
| 2-Propenoic acid, polymer with methyloxirane polymer, Sodium salt | - | - | - | - | - | - | - |
| Ethylene oxide-Propylene oxide copolymer monobutyl ether | - | - | - | - | - | - | - |

EXPOSURE GUIDELINES (CANADA)

Employers should consult local Provincial regulatory limits for exposure guidelines which may vary locally.

Engineering Controls:

Not generally required.

Personal Protective Equipment:

Respiratory Protection: Respiratory protection is not normally required. However, a chemical cartridge respirator with organic vapor cartridge is required at or above the applicable exposure limits (Consult above Exposure Guidelines). If no limits exist, use an approved respirator whenever a vapor or mist is generated or if respiratory irritation occurs. Supplied air respirator (SCBA) is required at exposure levels above the capabilities of a chemical cartridge respirator.

Skin Protection: Rubber or other impervious gloves should be worn to prevent skin contact.

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Eye Protection: At minimum, safety glasses with side shields should be worn where exposure to excessive dust or spray is likely.

Work/Hygienic Practices: Use good personal hygiene practices.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| SECTION 9 - PHYSICAL AND CHEMIC | | | | | | | |
|--|--------------------------------|----------------|----------------|-------------|---------------|--------------|---------|
| Physical State: | | Liquid | | | | | |
| Appearance/Odor: | | Orange Colo | ored liquid w | th a slight | odor of A | crylic | |
| | | Acid. | | | | | |
| Odor Threshold: (ppm) | | Not Determi | ned | | | | |
| pH: | | 6-8 | | | | | |
| Vapor Pressure: (Mm Hg) | | Not Determi | ned | | | | |
| Vapor Density: (Air = 1) | | Not Determi | ned | | | | |
| Solubility In Water: | | Miscable | | | | | |
| Specific Gravity: (Water = 1) | | ~1.1 | | | | | |
| Evaporation Rate: (Butyl Aceta | | Unknown | | | | | |
| Boiling Point: | | >212°F/100° | C | | | | |
| Viscosity: | | Unknown | | | | | |
| Bulk Density: (Pounds/Cubic | | Not Applicat | le | | | | |
| Foot)(Pcf) | | | | | | | |
| % Volatiles (gr/L): (70°F) | (21°C) | ~ 80% as wa | ater | | | | |
| SECTION 10 - STABILITY AND REACT | IVITY | | | | | | |
| Chemical Stability: | | Stable | | | | | |
| Conditions To Avoid: | | None known | for this pro | duct | | | |
| Hazardous Polymerization: | | Will not poly | | | | | |
| Hazardous Decomposition Pro | | | | | | | |
| • | | | | | | | |
| SECTION 11 - TOXICOLOGICAL INFO | | | | | | | |
| Ingredient(No data unless listed.) | | | AS Numbe | | 50 and | LC50 | |
| Ethylene oxide-Propylene oxide copolym | ier monobi | ityl ether 0 | 09038-95-3 | >5 | 00 mg/kg | | |
| Carcinogenicity: | | | | | | | |
| Ingredient | IARC | IARC | IARC | NTP | NTP | OSHA | |
| 2-Propenoic acid, polymer with methyloxirane | Group 1 No | Group 2A No | Group 2B No | Known No | Suspect No | No | _ |
| polymer, Sodium Salt | NU | NO | NO | NO | NO | NO | |
| Ethylene oxide-Propylene oxide copolymer | No | No | No | No | No | No | - |
| monobutyl ether | | | | | | | |
| Mutagenicity: | No | ot applicable. | | | | | |
| Teratogenicity: | No | ot applicable. | | | | | |
| Reproductive Toxicity: | No | ot applicable. | | | | | |
| SECTION 12 - ECOLOGICAL INFORMA | ATION | | | | | | |
| Environmental Fate: | No | o data availa | ble for produ | ict. | | | |
| Ecotoxicity: | No data available for product. | | | | | | |
| SECTION 13 - DISPOSAL CONSIDERA | | | | | | | |
| Waste Disposal Procedures: C | | ogulationa (f | odorol state | nrovinci | | r o qualifio | d |
| waste disposal firm when charac | | | | | | | |
| this product is not defined as has | | | | | | | 1516 01 |
| regulations. | zaruous. L | ispose of wa | | uance wit | ii ali appli | Cable | |
| | | | | | | | |
| SECTION 14 - TRANSPORTATION INF | | | | | | | |
| Proper Shipping Name: | • | plicable | | | | | |
| UN/NA Number: | | plicable | | | | | |
| Domestic Hazard Class: | | zardous | | | | | |
| Surface Freight Classification: | | te/Masonry I | Plasticizer a | nd water r | educing c | ompound. | |
| Label/Placard Required: | Not Ap | plicable | | | | | |
| | | | | | | | |

W. R. GRACE

MATERIAL SAFETY DATA SHEET

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|---|------------------------------------|------------------------|----------------------------|-------------------------|--|--|--|
| Product Name: ADVA® 140 | | | | | | | |
| MSDS ID Number: D-06476 | | | | | | | |
| SECTION 15 - REGULATORY INFORM | IATION | | | | | | |
| REGULATORY CHEMICAL LISTS: | | | | | | | |
| CERCLA (Comprehensive Response | Compensation | and Liability Ac | <u>:():</u> | | | | |
| (None present unless listed below) | | | | | | | |
| <u>Chemical Name</u> | <u>CAS #</u> | <u>Wt %</u> | <u> </u> | CERCLA RQ | | | |
| SARA Title III (Superfund Amendmen | <u>ts and Reautho</u> | rization Act) | | | | | |
| SARA Section 312/Tier I & II Hazard C | ategories: | | | | | | |
| Health Immediate (acute) | Yes | | | | | | |
| Health Delayed (chronic) | No | | | | | | |
| Flammable | No | | | | | | |
| Reactive | No | | | | | | |
| Pressure | No | | | | | | |
| 302 Reportable Ingredients (Identifica | | | | | | | |
| Chemical Name | <u>CAS #</u> | <u>Wt %</u> | <u> </u> | SARA 302 TPQ | | | |
| 313 Reportable Ingredients (Chemica | ls present belo | w reporting three | eshold are exen | npt): | | | |
| <u>Chemical Name</u> | | <u>CAS #</u> | <u>Wt %</u> | | | | |
| Nitrate compounds | | RR-01770 | -9 .0077 | | | | |
| National Volatile Organic Compound | Emission Stand | dards For Archi | tectural Coating | gs: | | | |
| Volatile Organic Content: (gr/ | L) Not Ap | plicable | | | | | |
| WHMIS Classification(s): | , . | 2 B | | | | | |
| This product has been classified in acco | rdance with the | hazard criteria o | f the Controlled | Products Regulations | | | |
| (CPR). This MSDS contains all the info | | | | i reducto i tegulatione | | | |
| State Regulatory Information: | | , | | | | | |
| | NG! This produc | t contains subst | ances known to | the state of | | | |
| | | er, birth defects | | | | | |
| Massachusetts Hazardous Substance | | | | | | | |
| Chemical Name | | CAS # | Wt % | | | | |
| New Jersey Hazardous Substance Lis | st/Idontification | | | | | | |
| | Suluentincation | | | | | | |
| Chemical Name | | <u>CAS #</u> | <u>Wt %</u> | | | | |
| Pennsylvania Hazardous Substance I | _ist(Identificatio | | | | | | |
| <u>Chemical Name</u> | | <u>CAS #</u> | <u>Wt %</u> | | | | |
| CHEMICAL INVENTORY STATUS: | | | | | | | |
| All chemicals in this product are liste | d or exempt fro | om listing in the | following cour | ntries: | | | |
| US CANADA EUROPE | AUSTRALIA | JAPAN | KOREA | PHILIPPINES | | | |
| TSCA DSL NDSL EINECS/ELINCS Yes Yes No Yes | AICS Yes | ENCS Not Determined | ECL Not Determined | PICCS No | | | |
| | | Not Determined | Not Determined | NO | | | |
| SECTION 16 - OTHER INFORMATION | | | | | | | |
| Non-Hazardous Ingredient Disclosure | <u>):</u> | | | | | | |
| Chemical Name | | | CAS Number 007722 18 5 | | | | |
| | | | 00770040E | | | | |
| Water | | | 007732-18-5 | | | | |
| Water Sodium gluconate | | | 007732-18-5 000527-07-1 | | | | |
| Water Sodium gluconate Prepared by: | EH&S Dep | | | | | | |
| Water Sodium gluconate | EH&S Dep EH&S Dep 01/20/2009 | artment | | | | | |

Disclaimer: "The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection."