

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS PREPARED BY: Environmental Health Dept.-Grace Construction Products
 W.R.Grace & Co.-Conn. W. R. Grace & Co. of Canada Ltd.
 62 Whittemore Ave. 294 Clements Rd. West
 Cambridge, MA 02140 Ajax, Ontario, L1S 3C6
 Telephone Number for Information and Emergency Response
 In USA: (617) 876-1400 In Canada: (905) 683-8561

MSDS Number: D-05523 000001 Cancels MSDS # D-05402 Date: 04/14/2000

Trade Names and Synonyms: DARACEM® 65, DARACEM® 65R
 (SEE SECTION 16 FOR ADDITIONAL
 PRODUCT IDENTIFICATION)

Chemical Names and Family: Aqueous Solution of Lignosulfonate,
 Melamine Polymer and Amine

Product Use: Concrete Water Reducer/Retarder
Formula: MIXTURE-NA
CAS# (Chemical Abstract Service): MIXTURE-NA

SECTION 2 - HAZARDOUS INGREDIENT AND MAJOR COMPONENT INFORMATION
 (See Section 11 for Complete Chemical Names)

INGREDIENT:	Max. % By Wt.	EXPOSURE LIMITS		
		OSHA	Exposure Limits ACGIH	OTHER
SODIUM O-PHENYLPHENATE CAS# 132-27-4	0.25	None Established	None Established	None Established
TRIETHANOLAMINE CAS# 102-71-6	10.00	None Established	TLV - 5mg/m3	None Established
GLUTARALDEHYDE CAS# 111-30-8	0.15	0.2ppm Ceiling (Vacated)	0.05ppm Ceiling	0.1ppm Ceiling (Union Carbide)
MELAMINE-FORMALDEHYDE- SODIUM BISULFITE POLYMER CAS# 64787-97-9	10.00	None Established	None Established	None Established

EXPOSURE GUIDELINES - CANADA

Employers should check with provincial regulatory agencies for exposure guidelines, which may vary locally.

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview:**Warning Statements:**

WARNING! MAY CAUSE SKIN AND EYE IRRITATION.

- ... Contains Triethanolamine CAS# 102-71-6, Melamine-formaldehyde-sodium bisulfite polymer CAS# 64787-97-9, Lignosulfonate CAS# 8061-51-6 and Water CAS# 7732-18-5. May also contain Compound carbohydrates CAS# 8029-43-4. Contains Sodium o-phenylphenate CAS# 132-27-4 or Glutaraldehyde CAS# 111-30-8 at less than 0.25% as a preservative.
- ... Contact may cause eye irritation.
- ... Prolonged or repeated contact may cause skin irritation. In rare cases, Triethanolamine may cause an allergic skin response.
- ... May be harmful if swallowed.
- ... Based on laboratory animal studies, overexposure by ingestion may cause effects to the blood, liver and kidneys.
- ... Read and understand all Health and Safety information on the product Label and Material Safety Data Sheet before use.

NPCA-HMIS Hazard Index:

- o Health: 2
- o Flammability: 1
- o Reactivity: 0
- o Personal Protection: B
(See Section 8)

Potential Health Effects**Routes of Exposure:****Inhalation:**

Adverse health effects are not expected from typical use. However, if product is inhaled as a vapor or mist, may cause irritation to the upper respiratory tract causing sore throat, coughing and breathing difficulties. Hypersensitive individuals may experience allergic respiratory reaction which can result in wheezing and chest tightness.

Skin and Eye:

Eye contact with solution may cause irritation resulting in burning, redness and tearing, and slight reversible corneal injury. Prolonged contact with skin may cause irritation. Repeated exposure may cause severe irritation, even a burn. Hypersensitive individuals may develop allergic reaction resulting in dermatitis, rash or hives.

Ingestion:

Swallowing may irritate mouth, throat, and stomach causing pain, nausea and vomiting. Liver/kidney damage and blood effects have been reported in chronic exposure studies using laboratory animals.

SECTION 3 - HAZARDS IDENTIFICATION (Cont'd)

Carcinogenicity Information:

This product may contain Sodium o-phenylphenate CAS# 132-27-4 as a preservative at a concentration of 0.25% or less. Sodium o-phenylphenate has been shown to cause bladder tumors when fed exaggerated doses to rats. The compound is classified as IARC Group 2B (possibly carcinogenic to humans). However, risks from handling this product are considered negligible.

Product may contain a residual level (less than 0.01%) of Formaldehyde. Exposures are expected to be insignificant.

SECTION 4 - FIRST AID MEASURES

EYE: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician if irritation persists.

SKIN: Wash skin with soap and water. If irritation develops and persists, call a physician. Wash contaminated clothes before reuse.

INHALATION: If irritation due to inhalation develops, get fresh air. If symptoms persists, call a physician.

INGESTION: If swallowed, do not induce vomiting. Give large quantities of water for dilution effect. Never give anything by mouth to an unconscious person. Get medical attention immediately.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: >93°C/200°F

Flammable Limits:

Method Used: (est.-aqueous system)

LEL N/A

UEL N/A

N.F.P.A. Rating: H-1 F-1 R-0

Extinguishing Media

Product is an aqueous solution and is unlikely to burn until all water has been evaporated. In case of fire, use water, dry chemical, Carbon dioxide or "alcohol" foam.

Special Fire Fighting Procedures

Not Applicable

Unusual Fire and Explosion Hazards

Not Applicable

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Prevent product from entering drinking water supplies or streams. Observing precautions above, collect liquid or absorb liquid with an inert, noncombustible material and remove for disposal.

Spill reporting requirements and reportable quantities vary by region. In case of any spill or release, consult Section 6, 13 and 15 of the MSDS and all applicable local, state and federal regulations.

SECTION 7 - HANDLING AND STORAGE INFORMATION

Precautionary Measures:

- ... Avoid contact with eyes, skin and clothing.
- ... Wash thoroughly after handling.
- ... Use with adequate ventilation.
- ... FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:

Local Exhaust: Not generally required
Mechanical: Not generally required
Special: Not applicable
Other: Not applicable

Respiratory Protection:

Respiratory protection is not generally required during use of this product. However, if use causes respiratory irritation or generates vapor/mist, a NIOSH-approved organic vapor respirator (Type TC-23C-XXX) with a prefilter for mists is recommended.

Skin Protection:

Rubber or other impervious gloves should be worn to guard against prolonged or repeated contact.

Eye Protection:

Use chemical goggles or face shield if direct contact due to splashing is possible.

Other Protective Clothing or Equipment:

Wear appropriate clothing to prevent skin contact.

Work/Hygienic Practices:

Personal protective equipment (PPE) specified above is appropriate for typical production operations and exposures. For any unusual situations such as vessel entry or spill clean-up, your supervisor and/or Health and Safety Department should determine additional PPE requirements and safety procedures.

Do not mix with Sodium nitrite, Calcium nitrite or other nitrosating agents. Suspected cancer causing nitrosamines may be found.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: >100°C/212°C (estimated) Specific Gravity(H₂O=1) 1.1 - 1.2

Vapor Pressure (mm Hg.) Not Applicable % Volatiles ~60 (As Water)

Vapor Density(AIR = 1) Not Applicable Evaporation Rate (Butyl Acetate = 1) Not Applicable

Solubility in Water: Complete pH 7.5 - 10.5

Bulk Density (#/cu. ft): Not Applicable

Appearance and Odor: Dark brown liquid with slight, non-distinct odor.

Odor Threshold:
None Established

SECTION 10 - STABILITY AND REACTIVITY

Stable under normal conditions (yes or no): YES

Conditions or Materials to avoid (which may react or cause instability):
Avoid contact with strong oxidizers.

Hazardous Decomposition or Byproducts:
Sulfur dioxide, Carbon dioxide, and Carbon monoxide.

Hazardous Polymerization:
Will not occur

Conditions to Avoid:
None Known

SECTION 11 - TOXICOLOGICAL INFORMATION

INGREDIENT (Chemical Name, CAS#, & Common Name)	TOXICITY DATA LD ₅₀ , LC ₅₀ etc. (See Section 2 for Exposure Limits)
Triethanolamine CAS# 102-71-6	LD ₅₀ (oral, rat) greater than 5g/kg LD ₅₀ (skin, rabbit) greater than 10g/kg
Glutaraldehyde CAS# 111-30-8	LD ₅₀ (oral, rat) 134 mg/kg
Sodium O-phenylphenate CAS# 132-27-4	LD ₅₀ (oral, rat) 656 mg/kg
Melamine-Formaldehyde- Sodium Bisulfite Polymer CAS# 64787-97-9	LD ₅₀ (oral, rat) > 5g/kg

SECTION 12 - ECOLOGICAL INFORMATION

None Available At This Time.

SECTION 13 - DISPOSAL CONSIDERATIONS

Consult all regulations (federal, state, provincial, local) or a qualified waste disposal firm when characterizing waste for disposal. Dispose of waste in accordance with all applicable regulations.

According to U.S. EPA (40 CFR § 261) waste of this product is not defined as hazardous.

SECTION 14 - TRANSPORT INFORMATION**Transportation Hazard Classification**

PROPER SHIPPING: Not Applicable

HAZARD CLASS: Not Applicable
IDENTIFICATION #: Not Applicable
LABEL(s) REQUIRED: Not Applicable

Surface Freight Classification: Concrete or Masonry Plasticizer & Water Reducing Compound

SECTION 15 - REGULATORY INFORMATION(Not Meant To Be All Inclusive
Selected Regulations Represented)

SARA TITLE III REPORTING INFORMATION**Tier I & II HAZARD CATEGORIES:**IMMEDIATE (ACUTE) HEALTH
DELAYED (CHRONIC) HEALTH

Contains Extremely Hazardous-SARA III Section 302 Ingredient: NO
Comments:

Contains Toxic Chemical Release-SARA III Section 313 Ingredient: YES
Comments: May contain Sodium o-phenylphenate at 0.25% Max: REPORTABLE
May contain Diethanolamine (less than 0.1%): NOT REPORTABLE
May contain Formaldehyde (less than 0.01%): NOT REPORTABLE

Other Government Reporting Requirements:**CHEMICAL INVENTORY CERTIFICATION:****For U.S. Products ONLY**

All ingredients contained in this product are included on the US EPA Toxic Substances Control Act (TSCA) Inventory or exempt from listing on the TSCA Inventory. Product may contain trace amounts of Diethanolamine which is subject to export notification requirements in accordance with Section 12(b) of TSCA.

For Canadian Products ONLY

All ingredients contained in this product comply with the requirements of the Canadian Environmental Protection Act (CEPA) and are listed on the Domestic Substance List (DSL) or Non-Domestic Substance List (NDSL).

CERCLA/SARA SECTION 304 HAZARDOUS SUBSTANCES: Not Applicable

STATE SPECIFIC EMERGENCY RELEASE REQUIREMENTS:

Some state regulated reportable quantity thresholds may be more stringent than the federal requirements noted above. Due to the complex and dynamic nature of these regulations, it is not possible to provide a complete summary. You should contact the Environmental Compliance Coordinator in your company or the appropriate Department of Environmental Protection if product is released to land or water.

CALIFORNIA PROPOSITION 65 INFORMATION: WARNING! This product may contain substances at trace levels known to the state of California to cause cancer, birth defects or other reproductive harm.

SECTION 15 - REGULATORY INFORMATION (Cont'd) (Not Meant To Be All Inclusive
Selected Regulations Represented)

WHMIS CLASS: D-2B

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation (CPR). This MSDS contains all the information required by the CPR.

Nonhazardous Ingredient Disclosure:

Water CAS# 7732-18-5, Lignosulfonate CAS# 8061-51-6.

SECTION 16 - OTHER INFORMATION

The information contained in this Material Safety Data Sheet is applicable to the following products:

Daracem® 65
Daracem® 65R

"THE DATA INCLUDED HEREIN ARE PRESENTED IN ACCORDANCE WITH VARIOUS ENVIRONMENT, HEALTH AND SAFETY REGULATIONS. IT IS THE RESPONSIBILITY OF A RECIPIENT OF THIS 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."

W. R. GRACE
MATERIAL SAFETY DATA SHEET

Product Name: VERIFI
MSDS ID Number: D-05845

MSDS Date: 03/02/2004

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: VERIFI
MSDS Number: D-05845
Cancelled MSDS Number: D-05658
MSDS Date: 03/02/2004
Chemical Family Name: Plastic Fibers
Product Use: Plastic Shrinkage Reduction Fiber for Concrete
Chemical Formula: Mixture-NA
CAS # (Chemical Abstracts Service Number): Mixture-NA

Manufactured by:

W.R.Grace & Co.-Conn.
62 Whittemore Avenue
Cambridge, Ma 02140

Grace Canada, Inc
294 Clements Road West
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)
Polyoxyalkylene Sodium Salt	184785-41-9	1-5
Polypropylene Fiber	Not Applicable	10-20

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview:

Caution!

May cause slight eye irritation.
May cause slight skin irritation.
May be harmful if ingested

W. R. GRACE
MATERIAL SAFETY DATA SHEET

Product Name: VERIFI
MSDS ID Number: D-05845

MSDS Date: 03/02/2004

HMIS Rating:

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

Potential Health Effects:

Inhalation:

Not expected to cause adverse effects.

Eye Contact:

May cause slight eye irritation.

Skin Contact:

May cause slight skin irritation.

Skin Absorption:

Not expected to be harmful if absorbed through the skin.

Ingestion:

May cause irritation if ingested.

SECTION 4 - FIRST AID MEASURES:

Skin Contact:

If discomfort or irritation persists, consult a physician.

Wash with soap and water.

Remove contaminated clothing and wash before reuse.

Eye Contact:

Call a physician immediately.

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

Ingestion:

If discomfort or irritation persists, consult a physician.

Never give anything by mouth to an unconscious person

Do not induce vomiting.

Inhalation:

If symptoms develop, get fresh air. If symptoms persist, consult a physician.

If breathing has stopped, give artificial respiration, then oxygen if needed.

SECTION 5 - FIRE AND EXPLOSION HAZARD DATA

Flash Point:	>200F (Aqueous System)
Flash Point Method:	Not Applicable
Lower Flammability Limit:	Not Available
Upper Flammability Limit:	Not Available
Auto-Ignition Temperature:	Not Available

W. R. GRACE
MATERIAL SAFETY DATA SHEET

Product Name: VERIFI
MSDS ID Number: D-05845

MSDS Date: 03/02/2004

NFPA Rating:

Health: 1
Flammability: 0
Reactivity: 0

Extinguishing Media: In case of fire, use water spray, dry chemical, CO₂, or foam.

Special Fire Fighting Procedures: Wear SCBA and complete PPE when potential for exposure to vapors or products of combustion exist. Water may be used to cool containers to prevent pressure buildup and possible autoignition or explosion. Avoid breathing hazardous vapors or products of combustion, keep up wind. Isolate area and keep unnecessary people away. Prevent runoff from fire control or dilution from entering streams or drinking water supplies.

Unusual Fire and Explosion Hazards:

During fire, oxides of nitrogen may be evolved.

SECTION 6 - ACCIDENTAL RELEASE MEASURES:

Spills/Leaks:

Use proper PPE. Do not flush to sewer or allow to enter waterways. Keep unnecessary people away.

Contain and/or absorb spill with inert material (e.g. 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 reach of children.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT

EXPOSURE GUIDELINES (US)

Ingredient	ACGIH TLV			OSHA PEL			Other
	TWA	STEL	Ceiling	TWA	STEL	Ceiling	

W. R. GRACE
MATERIAL SAFETY DATA SHEET

Product Name: VERIFI
MSDS ID Number: D-05845

MSDS Date: 03/02/2004

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 generally required. If irritation is noted, a chemical cartridge respirator with organic vapor cartridge may be worn.

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

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

Work/Hygienic Practices: Use good personal hygiene practices.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance/Odor:	Thick White Paste
Odor Threshold: (ppm)	Not Determined
pH:	Unknown
Vapor Pressure: (Mm Hg)	Unknown
Vapor Density: (Air = 1)	Unknown
Solubility In Water:	Miscible
Specific Gravity: (Water = 1)	1.0
Evaporation Rate: (Butyl Acetate = 1)	Unknown
Boiling Point:	>212F/100C
Viscosity:	Unknown
Bulk Density: (Pounds/Cubic Foot)(Pcf)	Not Applicable
% Volatiles: (70F) (21C)	~80% (As Water)

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability:	Stable
Conditions To Avoid:	None known for this product.
Hazardous Polymerization:	Will not Polymerize
Hazardous Decomposition Products:	None known for this product.

W. R. GRACE
MATERIAL SAFETY DATA SHEET

Product Name: VERIFI
MSDS ID Number: D-05845

MSDS Date: 03/02/2004

SECTION 15 - REGULATORY INFORMATION

Chemical Inventory Status/Certification:

United States: Yes
Canada: Yes (Subject to volume limitations.)

Superfund Amendments and Reauthorization Act Of 1986 (Sara) Title III Reporting Requirements:

Sara Section 312/Tier I & II Hazard Categories:

Health Immediate (acute)	No
Health Delayed (chronic)	No
Flammable	No
Reactive	No
Pressure	No

Regulatory Chemical Lists:

CERCLA (Comprehensive Response Compensation and Liability Act):

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>	<u>CERCLA RQ</u>
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SARA Title III (Superfund Amendments and Reauthorization Act):

302 Reportable Ingredients:

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>	<u>SARA 302 TPQ</u>
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313 Reportable Ingredients:

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>
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National Volatile Organic Compound Emission Standards For Architectural Coatings:

Volatile Organic Content: (gr/L) Not Applicable

WHMIS Classification(s): Not Controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR). This MSDS contains all the information required by the CPR.

State Regulatory Information:

California Proposition 65: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

W. R. GRACE
MATERIAL SAFETY DATA SHEET

Product Name: VERIFI
MSDS ID Number: D-05845

MSDS Date: 03/02/2004

Massachusetts Hazardous Substance List:
(None present above threshold unless listed below)

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>	-
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New Jersey Hazardous Substance List:
(None present above threshold unless listed below)

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>	-
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Pennsylvania Hazardous Substance List:
(None present above threshold unless listed below)

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>	-
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SECTION 16 - OTHER INFORMATION

Non-Hazardous Ingredient Disclosure:

<u>Chemical Name</u>	<u>CAS Number</u>
Water	007732-18-5

Prepared by: EH&S Department
Approved by: EH&S Department
Approved Date: 03/02/2004

Disclaimer:

"The data included herein are presented according to W R Grace & Co.-Conn's practices current at the time of preparation hereof, are made available solely for the consideration, investigation and verification of the original recipients hereof and do not constitute a representation or warranty for which Grace assumes legal responsibility. It is the responsibility of a recipient of this 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."
