

RAMUC[®]**RAMUC TYPE DS - WHITE 2X1 US GL**

Version 1.5

Print Date 10/30/2008

REVISION DATE: 12/05/2006

SECTION 1 - PRODUCT IDENTIFICATION

Trade name : RAMUC TYPE DS - WHITE 2X1 US GL
 Product code : 910131101FC

COMPANY : Republic Powdered Metals
 2628 Pearl Road
 Medina, OH 44256

Telephone : (800) 551-7081
 Emergency Phone: : 1-800-551-7081
 After Hours: Chemtrec 1-800-424-9300

Product use : Coating

SECTION 2 - HAZARDS IDENTIFICATION**Emergency Overview**

White. Liquid. No serious effects anticipated under normal conditions of use. Leave area to breathe fresh air. Avoid further overexposure. If symptoms persist, get medical attention.

Acute Potential Health Effects/ Routes of Entry

Inhalation : No serious effects anticipated under normal conditions of use.
 Eyes : Direct contact may cause mild irritation.
 Ingestion : May cause gastrointestinal irritation, nausea, and vomiting.
 Skin : May cause mild irritation.

Aggravated Medical Conditions

Pre-existing eye, skin and respiratory disorders may be aggravated by exposure.

Chronic Health Effects

Glycol ethers caused anemia and other blood abnormalities, kidney, liver and lung effects in experimental animals. Inhalation of crystalline silica (quartz) can cause cancer based on animal data, and IARC concludes sufficient evidence in humans (Group 1). Prolonged and repeated overexposure to free crystalline silica dust above the TLV level may cause scarring of the lungs with cough and shortness of breath. A delayed lung injury, silicosis may result from breathing free silica. Diacetone alcohol caused liver damage in experimental animals. Can cause narcosis at high concentrations. Long term overexposure to propylene glycol caused liver abnormalities, kidney damage in laboratory animals. Repeated excessive ingestion may cause central nervous system effects. Fillers are encapsulated and not expected to be released from product under normal conditions of use.

SECTION 3 - PRODUCT COMPOSITION

Chemical Name	CAS-No.	Weight %
Water	7732-18-5	30.0 - 60.0
Acrylic Latex	NJTSRN# 51721300-5389P	15.0 - 40.0

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Titanium dioxide	13463-67-7	15.0 - 40.0
Barium sulfate	7727-43-7	10.0 - 30.0
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	7.0 - 13.0
Propylene glycol	57-55-6	1.0 - 5.0
Diacetone alcohol	123-42-2	1.0 - 5.0
2-Butoxyethanol (Glycol ether)	111-76-2	1.0 - 5.0

SECTION 4 - FIRST AID MEASURES

Get immediate medical attention for any significant overexposure.

- Inhalation : Leave area to breathe fresh air. Avoid further overexposure. If symptoms persist, get medical attention.
- Eye contact : Flush with water for 15 minutes. If irritation persists, get medical attention.
- Skin contact : Wash area of contact thoroughly with hand cleaner followed by soap and water. If irritation, rash or other disorders develop, get medical attention immediately.
- Ingestion : Get medical attention. Do not induce vomiting.
- Notes to physician : Not applicable.

SECTION 5 - FIRE FIGHTING MEASURES

- Flash point : Not available.
- Method : Not applicable.
- Lower explosion limit : Not available.
- Upper explosion limit : Not available.
- Autoignition temperature : Not available.
- Extinguishing media : This product is not expected to burn under normal conditions of use.
- Hazardous combustion products : Carbon monoxide and carbon dioxide can form. Smoke, fumes.
- Protective equipment for firefighters : Use accepted fire fighting techniques. Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA).
- Fire and explosion conditions : This product not expected to ignite under normal conditions of use.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Transfer to appropriate container for disposal. Stop flow. Contain spill. Keep out of water courses. Absorb spill in sand, earth or other suitable material. Transfer to appropriate container for disposal. Use appropriate protective equipment. Avoid contact with material.

SECTION 7 - HANDLING AND STORAGE

Handle in compliance with common hygienic practices. Clean hands thoroughly after handling. Keep from

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freezing. Do not use in confined or poorly ventilated areas. Prevent inhalation of vapor, ingestion, and contact with skin eyes and clothing. Keep container closed when not in use. Precautions also apply to emptied containers. Store in sealed containers in a dry, ventilated warehouse location above freezing.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protection equipment

- Respiratory protection : Not required under normal conditions of use. Wear appropriate, NIOSH/MSHA approved respirator with combination particulate filter and vapor/gas removing cartridge when the ventilation is not adequate or if it is necessary to abrade or grind surfaces coated with this product.
- Hand protection : Use suitable impervious rubber or vinyl gloves and protective apparel to reduce exposure.
- Eye protection : Wear appropriate eye protection. Wear chemical safety goggles and/or face shield to prevent eye contact. Do not wear contact lenses. Do not touch eyes with contaminated body parts or materials. Have eye washing facilities readily available.
- Skin and body protection : Prevent contact with shoes and clothing. Use rubber apron and overshoes.
- Protective measures : Other equipment not normally required. Use professional judgment in the selection, care, and use.
- Engineering measures : Not required under normal conditions of use. Use local exhaust when the general ventilation is inadequate.

Exposure Limits

Chemical Name	CAS Number	Regulation	Limit	Form
Titanium dioxide	13463-67-7	ACGIH TWA: OSHA PEL: OSHA TWA: OSHA TWA:	10 mg/m3 15 mg/m3 15 mg/m3 5 mg/m3	Total dust. Total dust. Respirable fraction.
Barium sulfate	7727-43-7	ACGIH TWA: OSHA PEL: OSHA PEL: OSHA TWA: OSHA TWA:	10 mg/m3 5 mg/m3 15 mg/m3 15 mg/m3 5 mg/m3	Respirable fraction. Total dust. Total dust. Respirable fraction.
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	OSHA TWA: OSHA TWA: OSHA PEL: OSHA PEL: ACGIH TWA:	0.1 mg/m3 0.3 mg/m3 15 mg/m3 5 mg/m3 0.025 mg/m3	Respirable. Total dust. Total dust. Respirable fraction. Respirable fraction.
Diacetone alcohol	123-42-2	ACGIH TWA: OSHA PEL:	50 ppm 240 mg/m3	

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POWDERED METALS, INC.

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Chemical Name	CAS Number	Regulation	Limit	Form
2-Butoxyethanol (Glycol ether)	111-76-2	ACGIH TWA: OSHA PEL:	20 ppm 240 mg/m ³	

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Form	: Liquid
Color	: White
Odor	: MildAmmonia
pH	: Not available.
Vapour pressure	: Not available.
Vapor density	: Heavier than air
Melting point/range	: Not available.
Freezing point	: Not available.
Boiling point/range	: Not available.
Water solubility	: Soluble
Specific Gravity	: 1.39
% Volatile Weight	: 44 %

SECTION 10 - REACTIVITY / STABILITY

Substances to avoid	: Strong acids.Strong bases.
Stability	: Stable
Hazardous polymerization	: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

Propylene glycol, CAS-No.: 57-55-6 Acute oral toxicity (LD-50 oral)	30,000 mg/kg (Rat)
Diacetone alcohol, CAS-No.: 123-42-2 Acute oral toxicity (LD-50 oral)	4,000 mg/kg (Rat)
2-Butoxyethanol (Glycol ether), CAS-No.: 111-76-2 Acute oral toxicity (LD-50 oral)	1,200 mg/kg (Mouse) 320 mg/kg (Rabbit) 1,200 mg/kg (Guinea pig) 1,480 mg/kg (Rat)
Acute dermal toxicity (LD-50 dermal)	400 mg/kg (Rabbit)

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SECTION 12 - ECOLOGICAL INFORMATION

No Data Available

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal Method : Waste not regulated under RCRA. Incinerate at EPA approved facility or dispose of waste in compliance with state and local regulations.

SECTION 14 - TRANSPORTATION / SHIPPING DATA

TDG / DOT Shipping Description:
NOT REGULATED

SECTION 15 - REGULATORY INFORMATION

North American Inventories:

All components are listed or exempt from the TSCA inventory.
This product or its components are listed on, or exempt from the Canadian Domestic Substances List.

U.S. Federal Regulations:

SARA 313 Components : 2-Butoxyethanol (Glycol ether) 111-76-2

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

OSHA Hazardous Components :

Titanium dioxide	13463-67-7
Barium sulfate	7727-43-7
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7
Diacetone alcohol	123-42-2
2-Butoxyethanol (Glycol ether)	111-76-2

OSHA Status: Considered : Irritant
hazardous based on the Carcinogen
following criteria:

OSHA Flammability : Not Regulated

Regulatory VOC (less water and : 152 g/l
exempt solvent)

VOC Method 310 : 4 %

Chemical is listed as an IARC, NTP, OSHA, or ACGIH Carcinogen:
Crystalline Silica (Quartz)/ Silica Sand 14808-60-7

