

RAMUC TYPE EP WHITE PART A

 Version 1
 REVISION DATE: 08/01/2005

Print Date 04/21/2006

SECTION 1 - PRODUCT IDENTIFICATION

Trade name	:	RAMUC TYPE EP WHITE PART A
Product code	:	908131103
COMPANY	:	Republic Powdered Metals 2628 Pearl Road Medina, OH 44256
Telephone	:	(800) 551-7081
Emergency Phone:	:	After Hours: Chemtrec 1-800-424-9300

SECTION 2 - HAZARDS IDENTIFICATION
Emergency Overview

White. Liquid solution. Vapor may irritate respiratory tract. May cause nausea, headaches, and dizziness. Leave area to breathe fresh air. Avoid further overexposure. If symptoms persist, get medical attention.

Acute Potential Health Effects/ Routes of Entry

Inhalation	:	Vapor may irritate respiratory tract. May cause nausea, headaches, and dizziness.
Eyes	:	Direct contact may cause mild irritation. May cause temporary injury.
Ingestion	:	May cause gastrointestinal irritation, nausea, and vomiting.
Skin	:	May cause sensitization resulting in irritation, itching and redness.

Aggravated Medical Conditions

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

Chronic Health Effects

Prolonged or repeated exposure to xylene may cause defatting, drying, and irritation of the skin, dermatitis, central nervous system (CNS) effects, heart muscle sensitization and arrhythmia, hearing loss, and brain, liver, kidney damage. Xylene overexposure may affect fetal development. Overexposure to methyl isobutyl ketone can cause narcosis and can adversely affect the central nervous system and cardiovascular system. The International Agency for Research on Cancer (IARC) has evaluated ethylbenzene and classified it as a possible human carcinogen (Group 2B) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. Prolonged or repeated exposure to vapors of isopropyl alcohol can cause eye, skin, or respiratory irritation, headache, dizziness, nausea, in coordination, drowsiness, and loss of consciousness. Prolonged or repeat exposure to liquid can cause defatting, drying, and irritation of the skin dermatitis. Overexposure to n-butyl alcohol caused anemia, liver abnormalities, eye, kidney and lung damage in experimental animals. Can cause eye damage in humans and effect hearing if exposed to vapor concentrations of over 50 ppm. Fillers are encapsulated and not expected to be released from product under normal conditions of use.

Target Organs: Skin, Eye, Ingestion, Lung



RAMUC TYPE EP WHITE PART A

Version 1

REVISION DATE: 08/01/2005

Print Date 04/21/2006

SECTION 3 - PRODUCT COMPOSITION

Chemical Name	CAS-No.	Weight %
Titanium dioxide	13463-67-7	30.0 - 60.0
Epoxy resin	25036-25-3	30.0 - 60.0
Xylene	1330-20-7	10.0 - 30.0
Methyl isobutyl ketone	108-10-1	7.0 - 13.0
n-Butyl glycidyl ether	2426-08-6	3.0 - 7.0
Ethylbenzene	100-41-4	1.0 - 5.0
n-Butanol	71-36-3	1.0 - 5.0
2-Propanol	67-63-0	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 : Do not induce vomiting unless advised by a physician. Call nearest Poison Control Center or Physician immediately.

SECTION 5 - FIRE FIGHTING MEASURES

- Flash point : 60 °F, 16 °C
- Method : Tag closed cup
- Lower explosion limit : Not available.
- Upper explosion limit : Not available.
- Autoignition temperature : Not available.
- Extinguishing media : If water fog is ineffective, use carbon dioxide, dry chemical or foam.
- Hazardous combustion products : Smoke, fumes. Carbon monoxide and carbon dioxide can form.
- Protective equipment for firefighters : Water may be used to cool containers to minimize pressure build-up. Use accepted fire fighting techniques. Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA).



RAMUC TYPE EP WHITE PART A

Version 1
 REVISION DATE: 08/01/2005

Print Date 04/21/2006

Fire and explosion conditions : Closed container, may burst when exposed to extreme heat. Empty containers may contain ignitable vapors. Vapor concentrations in enclosed areas may ignite explosively. Vapors may travel to sources of ignition and flashback.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Use appropriate protective equipment. Avoid contact with material. Remove sources of ignition immediately. Stop flow of material if safe to do so. Contain spill and keep out of water courses. Ventilate area.

SECTION 7 - HANDLING AND STORAGE

Store under dry warehouse conditions away from heat and all ignition sources. Store in a cool, well ventilated area. 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. Do not smoke, weld, generate sparks, or use flame near container. Change soiled work clothes frequently. Clean hands thoroughly after handling.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protection equipment

- Respiratory protection : Wear appropriate, properly fitted NIOSH/MSHA approved organic vapor or supplied air respirator when airborne contaminant level(s) are expected to exceed exposure limits indicated on the MSDS. Follow manufacturer's directions for respirator use.
- Hand protection : Use suitable impervious nitrile or neoprene gloves and protective apparel to reduce exposure.
- Eye protection : Chemical splash goggles.
- Protective measures : Use professional judgment in the selection, care, and use.
- Engineering measures : Use only in well ventilated areas. Provide maximum ventilation in enclosed areas. Use general ventilation and/ or local exhaust to reduce the airborne contaminant concentration below the exposure limit listed in the MSDS

Exposure Limits

Chemical Name	CAS Number	Regulation	Limit	Form
Titanium dioxide	13463-67-7	ACGIH TWA:	10 mg/m3	Total dust. Total dust. Respirable fraction.
		OSHA PEL:	15 mg/m3	
		OSHA TWA:	15 mg/m3	
		OSHA TWA:	5 mg/m3	
Xylene	1330-20-7	ACGIH TWA:	100 ppm	
		ACGIH STEL:	150 ppm	
		OSHA PEL:	435 mg/m3	

RAMUC TYPE EP WHITE PART A

Version 1

REVISION DATE: 08/01/2005

Print Date 04/21/2006

Chemical Name	CAS Number	Regulation	Limit	Form
Methyl isobutyl ketone	108-10-1	ACGIH TWA: ACGIH STEL: OSHA PEL:	50 ppm 75 ppm 410 mg/m3	
n-Butyl glycidyl ether	2426-08-6	ACGIH TWA: OSHA PEL:	25 ppm 270 mg/m3	
Ethylbenzene	100-41-4	ACGIH TWA: ACGIH STEL: OSHA PEL:	100 ppm 125 ppm 435 mg/m3	
n-Butanol	71-36-3	ACGIH TWA: OSHA PEL:	20 ppm 300 mg/m3	
2-Propanol	67-63-0	ACGIH TWA: ACGIH STEL: OSHA PEL:	200 ppm 400 ppm 980 mg/m3	

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

- Form : Liquid solution
- Color : White
- Odor : Solvent
- pH : Not available.
- Vapour pressure : Not available.
- Vapor density : Heavier than air
- Melting point/range : Not available.
- Freezing point : Not available.
- Boiling point/range : 237 - 243 °F, 114 - 117 °C at 760 mmHg
- Water solubility : Negligible
- Specific Gravity : 1.23
- % Volatile Weight : 26 %

SECTION 10 - REACTIVITY / STABILITY

- Substances to avoid : Epoxy curing agents. Amines and oxidizing agents.
- Stability : Material is stable under normal storage, handling, and use.
- Hazardous polymerization : Will not occur.

RAMUC TYPE EP WHITE PART A

Version 1
REVISION DATE: 08/01/2005

Print Date 04/21/2006

SECTION 11 - TOXICOLOGICAL INFORMATION

Xylene, CAS-No.: 1330-20-7	
Acute oral toxicity (LD-50 oral)	3,523 - 8,600 mg/kg (Rat)
Acute inhalation toxicity (LC-50)	6,350 mg/l (Rat)
Methyl isobutyl ketone, CAS-No.: 108-10-1	
Acute oral toxicity (LD-50 oral)	2,080 mg/kg (Rat)
n-Butyl glycidyl ether, CAS-No.: 2426-08-6	
Acute oral toxicity (LD-50 oral)	2,000 mg/kg (Rat)
Acute inhalation toxicity (LC-50)	670 mg/l (Rat) 3,500 mg/l (Mouse)
Ethylbenzene, CAS-No.: 100-41-4	
Acute oral toxicity (LD-50 oral)	3,500 mg/kg (Rat)
Acute dermal toxicity (LD-50 dermal)	17,800 mg/kg (Rabbit)
n-Butanol, CAS-No.: 71-36-3	
Acute oral toxicity (LD-50 oral)	790 mg/kg (Rat)
Acute inhalation toxicity (LC-50)	8,000 mg/l (Rat)
Acute dermal toxicity (LD-50 dermal)	3,400 mg/kg (Rabbit)
2-Propanol, CAS-No.: 67-63-0	
Acute oral toxicity (LD-50 oral)	4,700 - 5,800 mg/kg (Rat)
Acute dermal toxicity (LD-50 dermal)	5,030 - 7,900 mg/kg (Rabbit)

SECTION 12 - ECOLOGICAL INFORMATION

No Data Available

SECTION 13 - DISPOSAL CONSIDERATIONS

RCRA Class : D001: Reportable Quantity = 100 lbs. (Characteristic of ignitability)
This classification applies only to the material as it was originally produced.

Disposal Method : Dispose of hazardous waste according to all local, state, federal and provincial regulations.

SECTION 14 - TRANSPORTATION / SHIPPING DATA

TDG / DOT Shipping Description:

FLAMMABLE LIQUID, N.O.S., 3, UN1263, PG III

RAMUC TYPE EP WHITE PART A

Version 1
REVISION DATE: 08/01/2005

Print Date 04/21/2006

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 : Xylene 1330-20-7
Methyl isobutyl ketone 108-10-1
Ethylbenzene 100-41-4
n-Butanol 71-36-3

SARA 311/312 Hazards : Acute Health Hazard
Fire Hazard

OSHA Hazardous Components :

Titanium dioxide 13463-67-7
Xylene 1330-20-7
Methyl isobutyl ketone 108-10-1
n-Butyl glycidyl ether 2426-08-6
Ethylbenzene 100-41-4
n-Butanol 71-36-3
2-Propanol 67-63-0

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

OSHA Flammability : IB

When appropriately mixed with the other part, product has a VOC less water and exempt solvent of:
340 g/l

U.S. State Regulations:

MASS RTK Components : Titanium dioxide 13463-67-7
Xylene 1330-20-7
Methyl isobutyl ketone 108-10-1
n-Butyl glycidyl ether 2426-08-6
Ethylbenzene 100-41-4
n-Butanol 71-36-3
2-Propanol 67-63-0

Penn RTK Components : Titanium dioxide 13463-67-7
Epoxy resin 25036-25-3
Xylene 1330-20-7
Methyl isobutyl ketone 108-10-1
n-Butyl glycidyl ether 2426-08-6
Ethylbenzene 100-41-4
n-Butanol 71-36-3
2-Propanol 67-63-0



RAMUC TYPE EP WHITE PART A

Version 1
 REVISION DATE: 08/01/2005

Print Date 04/21/2006

NJ RTK Components	:	Titanium dioxide	13463-67-7
		Epoxy resin	25036-25-3
		Xylene	1330-20-7
		Methyl isobutyl ketone	108-10-1
		n-Butyl glycidyl ether	2426-08-6
		Ethylbenzene	100-41-4
		n-Butanol	71-36-3
		2-Propanol	67-63-0

Chemicals known to the State of California to cause cancer birth defects and/or other reproductive harm:

100-41-4	Ethylbenzene
108-88-3	Toluene
14808-60-7	Crystalline Silica (Quartz)/ Silica Sand

SECTION 16 - OTHER INFORMATION

HMIS Rating :

Health	2
Flammability	3
Reactivity	1
PPE	

- 0 = Minimum
- 1 = Slight
- 2 = Moderate
- 3 = Serious
- 4 = Severe

Further information:

For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

Prepared by: Rich Mikol

Legend

- ACGIH - American Conference of Governmental Hygienists
- CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
- DOT - Department of Transportation
- NTP - National Toxicology Program
- EPA - Environmental Protection Agency
- HMIS - Hazardous Materials Information System
- IARC - International Agency for Research on Cancer
- MSHA - Mine Safety Health Administration
- NDSL - Non-Domestic Substance List
- NIOSH - National Institute for Occupational Safety and Health
- DSL - Domestic Substance List
- OSHA - Occupational Safety and Health Administration

- PEL - Permissible Exposure Limit
- RCRA - Resource Conservation and Recovery Act
- RTK - Right To Know
- SARA - Superfund Amendments and Reauthorization Act
- STEL - Short Term Exposure Limit
- TLV - Threshold Limit Value
- TSCA - Toxic Substances Control Act
- TWA - Time Weighted Average
- V - Volume
- VOC - Volatile Organic Compound
- WHMIS - Workplace Hazardous Materials Information System