

MATERIAL SAFETY DATA SHEET

Date Printed: 10/26/2005

Page: 1

Product Code: 320-21
Product Name: TT-P-320 TYPE 2 CLASS A ALUMINUM PASTE

Randolph Products Company, 33 Haynes Circle, Chicopee, MA 01020

24-hour Emergency Phone: ChemTel 800-255-3924

Information Phone: 413-592-4191

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

(See top of page)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component/Exposure Limits	CAS#	% by Wt.
* ALUMINUM	7429-90-5	65
ACGIH: 10 MG/M3 TWA		
OSHA: 15 MG/M3 TWA		
ALIPHATIC HYDROCARBONS (STODDARD TYPE)	8052-41-3	35
OSHA PEL 500 PPM - TWA		
OSHA VPEL 100 PPM- TWA		
ACGIH TLV 100 PPM - TWA		

3. HAZARDS IDENTIFICATION

CAUTION!

FLAMMABLE LIQUID AND VAPOR! INHALATION MAY CAUSE DIZZINESS, HEADACHE, FAINTNESS AND INCOORDINATION. MAY CAUSE RESPIRATORY TRACT IRRITATION. INGESTION MAY CAUSE NAUSEA, VOMITING, PAIN, UPSET STOMACH, DIARRHEA. MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION.

TARGET ORGANS/CHRONIC EFFECTS: Lungs and respiratory system. Eyes. Nervous System. Skin..

Potential Health Effects

EYE: May cause slight to mild irritation. May cause corneal opacity (clouding of eye surface). Can cause burning sensation, tearing and redness.

SKIN: May cause slight to mild irritation. Prolonged or repeated contact may dry the skin and lead to irritation (i.e. dermatitis). Can cause redness, itching and burning sensation.

INGESTION: Irritating to the mouth, throat and stomach. May cause nausea, vomiting, pain and stomach upset (e.g. diarrhea). Can cause dizziness, faintness, headache and incoordination.

INHALATION: Dizziness, breathing difficulty, headaches & loss of coordination.

M A T E R I A L S A F E T Y D A T A S H E E T

Date Printed: 10/26/2005

Page: 2

Product Code: 320-21
Product Name: TT-P-320 TYPE 2 CLASS A ALUMINUM PASTE

Randolph Products Company, 33 Haynes Circle, Chicopee, MA 01020

24-hour Emergency Phone: ChemTel 800-255-3924

Information Phone: 413-592-4191

CHRONIC (CANCER) INFORMATION: INFORMATION NOT AVAILABLE.

TERATOLOGY (BIRTH DEFECT) INFORMATION: INFORMATION NOT AVAILABLE.

REPRODUCTION INFORMATION: INFORMATION NOT AVAILABLE.

4. FIRST AID MEASURES

EYES: Any material that contacts the eye should be washed out immediately with water. Flush with water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

SKIN: Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

INGESTION: Do NOT induce vomiting. Drink 1 or 2 glasses of milk or water to dilute. Call a poison control center or get medical attention immediately. Never give anything by mouth to an unconscious person.

INHALATION: If symptomatic, move to fresh air. Get medical attention if symptoms persist.

NOTE TO PHYSICIANS: INFORMATION NOT AVAILABLE.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT: 105F Method: TCC

FLAMMABLE LIMITS:

Lower flammable limit: 1.0

Upper flammable limit: 6.0

AUTOIGNITION TEMPERATURE: INFORMATION NOT AVAILABLE.

HAZARDOUS COMBUSTION PRODUCTS: Smoke, soot and carbon dioxide, carbon monoxide.

EXTINGUISHING MEDIA: Dry chemical, CO2, Halon, Foam

FIREFIGHTING INSTRUCTIONS: Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing.

Unusual Fire and Explosion Hazards: High temperatures can cause sealed

M A T E R I A L S A F E T Y D A T A S H E E T

Date Printed: 10/26/2005

Page: 3

Product Code: 320-21
Product Name: TT-P-320 TYPE 2 CLASS A ALUMINUM PASTE

Randolph Products Company, 33 Haynes Circle, Chicopee, MA 01020

24-hour Emergency Phone: ChemTel 800-255-3924

Information Phone: 413-592-4191

containers to rupture due to a build up of internal pressure. Cool with water spray. Vapors are heavier than air and can travel some distance away and flash back.

Sensitivity to Static Discharge: Material may accumulate a static charge which could act as an ignition source. Precautions should be taken when pouring to minimize splash/free fall.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL:

See Information for Large Spill, below:

LARGE SPILL:

Isolate hazard area. Keep unnecessary and unprotected personnel from enter Eliminate all sources of ignition. Use non-sparking tools and/or explosion proof equipment. Cover spills with absorbent and sweep or scoop up and place in closed chemical waste containers. Dispose of according to local, state and federal regulations.

7. HANDLING AND STORAGE

HANDLING: Personal Precautionary Measures: Store in a cool, dry, well ventilated area away from heat, ignition sources, and direct sunlight. Keep containers tightly closed.

WARNING: Hot organic chemical vapors can suddenly and without warning combust when mixed with air. Ignition can occur at typical elevated temperature process conditions.

TRANSFER: Containers should be supported and grounded before opening, dispensing, mixing, pouring, and emptying. Open with non-sparking tools. If container is warm, open bung slowly to release internal pressure.

STORAGE: Keep container closed. Do not store near heat sources or open fla

EMPTY CONTAINER PRECAUTIONS: Attention! This container is hazardous when empty. Follow label warnings even after container is emptied since empty containers may retain product residues. Do not use heat, sparks, open flames, torches, cigarettes on or near empty containers. Do not re-use empty container without professional cleaning for food, clothing or products. for human or animal consumption or where skin contact can occur. Avoid storage in high humidity areas or where moisture contamination could occur.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

M A T E R I A L S A F E T Y D A T A S H E E T

Date Printed: 10/26/2005

Page: 4

Product Code: 320-21
Product Name: TT-P-320 TYPE 2 CLASS A ALUMINUM PASTE

Randolph Products Company, 33 Haynes Circle, Chicopee, MA 01020

24-hour Emergency Phone: ChemTel 800-255-3924

Information Phone: 413-592-4191

ENGINEERING CONTROLS: Ventilation: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Ventilation should be explosion proof. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances such as poorly ventilated spaces, spray painting, mechanical generation of dusts, heating, drying, etc.

RESPIRATORY PROTECTION: If engineering controls do not maintain airborne concentrations to an acceptable level, an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 CFR 1152, January 8, 1998. Respirator type: Organic Vapor.

SKIN PROTECTION: Wear impervious gloves to prevent skin contact. Recommended Decontamination Facilities: eye bath, washing facilities, safety shower.

EYE PROTECTION: Chemical safety goggles or glasses with side shields.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE: 315F
SPECIFIC GRAVITY (H₂O=1): 1.409
WEIGHT PER GALLON (US): 11.732 lb/gl
EVAPORATION RATE: SLOWER THAN ETHER
COATING VOC: 4.11 lb/gl
MATERIAL VOC: 4.11 lb/gl
SOLUBILITY IN WATER: NEGLIBABLE
% VOLATILE, WT: 35.%
%VOLATILE, VOL: 63.86%
APPEARANCE & ODOR: Liquid, mild solvent odor.

VOLATILE ORGANIC COMPUNDS: COATING VOC content is being expressed as mass o VOC per unit volume of coating less water and exempt solvents, where applicable.

MATERIAL VOC content is the actual weight of VOC per unit volume.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY (CONDITIONS TO AVOID): Stable under normal storage/use conditions.

INCOMPATIBILITY: Avoid strong oxidizing agents, acids and alkalies.

M A T E R I A L S A F E T Y D A T A S H E E T

Date Printed: 10/26/2005

Page: 5

Product Code: 320-21
Product Name: TT-P-320 TYPE 2 CLASS A ALUMINUM PASTE

Randolph Products Company, 33 Haynes Circle, Chicopee, MA 01020

24-hour Emergency Phone: ChemTel 800-255-3924

Information Phone: 413-592-4191

HAZARDOUS DECOMPOSITION PRODUCTS: INFORMATION NOT AVAILABLE.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

11. TOXICOLOGICAL INFORMATION

EYE: SEE SECTION 3

SKIN: SEE SECTION 3

INGESTION: SEE SECTION 3

INHALATION: SEE SECTION 3

SUBCHRONIC: INFORMATION NOT AVAILABLE.

CHRONIC/CARCINOGENICITY: SEE SECTION 3

TERATOLOGY: SEE SECTION 3

REPRODUCTION: SEE SECTION 3

MUTAGENICITY: INFORMATION NOT AVAILABLE.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: INFORMATION NOT AVAILABLE.
This material has not been tested for environmental effects.

CHEMICAL FATE INFORMATION: INFORMATION NOT AVAILABLE.

13. DISPOSAL CONSIDERATIONS

Discharge, treatment or disposal is subject to national, state, or local law. When a decision is made to discard this material as supplied, it meets RCRA's characteristic definition of ignitability. The toxicity characteristic (TC) has not been evaluated by the Toxicity Characteristic Leaching Procedure (TCLP).

Federal Regulations may apply to empty container. State and/or local regulations may be different.

Of the methods of disposal currently available, it is recommended that an alternative be selected according to the following order of preference, based upon environmental acceptability: (1) recycle or rework, if feasible; (2) incinerate at an authorized facility; or (3) treat at an acceptable waste treatment facility.

Be sure to contact the appropriate government environmental agencies if further guidance is required.

M A T E R I A L S A F E T Y D A T A S H E E T

Date Printed: 10/26/2005

Page: 6

Product Code: 320-21
Product Name: TT-P-320 TYPE 2 CLASS A ALUMINUM PASTE

Randolph Products Company, 33 Haynes Circle, Chicopee, MA 01020
24-hour Emergency Phone: ChemTel 800-255-3924
Information Phone: 413-592-4191

14. TRANSPORT INFORMATION (Not meant to be all inclusive)

DOT (USA) Shipping Name: Paint
UN/NA ID No: UN1263
Hazard Class: Class 3 (IATA/49CFR)
Packing Group: III

15. REGULATORY INFORMATION (Not meant to be all inclusive - selected regulations)

U.S. FEDERAL REGULATIONS: INFORMATION NOT AVAILABLE.

OSHA: Hazardous according to 29 CFR 1910.1200.

CERCLA: SARA HAZARD CATEGORY: INFORMATION NOT AVAILABLE.

SECTION 313: "*" Indicates toxic chemical(s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372.

INTERNATIONAL REGULATIONS:

CANADIAN WHMIS: INFORMATION NOT AVAILABLE.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): INFORMATION NOT AVAILABLE.

EINECS: INFORMATION NOT AVAILABLE.

STATE REGULATIONS:

INFORMATION NOT AVAILABLE.

16. OTHER INFORMATION

MSDS Status: Active

MSDS Effective/Revision Date: 10/26/05

USERS RESPONSIBILITY: A bulletin such as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if, or where, precautions - in addition to those described herein - are required. Any health hazard and safety information herein should be passed on to your customers or employees, as the case may be.

DISCLAIMER OF LIABILITY: The information contained herein is, to the best

M A T E R I A L S A F E T Y D A T A S H E E T

Date Printed: 10/26/2005

Page: 7

Product Code: 320-21
Product Name: TT-P-320 TYPE 2 CLASS A ALUMINUM PASTE

Randolph Products Company, 33 Haynes Circle, Chicopee, MA 01020

24-hour Emergency Phone: ChemTel 800-255-3924

Information Phone: 413-592-4191

of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. These data relate only to the specific material designated herein and do not relate to use in combination with any other material. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.

End of Material Safety Data Sheet