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Distributor Product No.

AP-302	AP-312	AP-322
AP-304	AP-314	AP-324

Manufacturer: Eminess Technologies
Manufacturer Product No.: Ultra-Lox R & M Aluminum Oxide

Dear Customer:

In order to comply with the Hazard Communication Law which went into effect November 25, 1985, and the Globally Harmonized System (GHS) regulation update introduced by the Occupational Safety and Health Administration (OSHA) in 2015, attached is the safety data sheet pertaining to our product noted above.

Additional sheets are available upon request. Please feel free to contact us if we can be of further assistance.

Sincerely,

Mager Scientific, Inc.
Customer Service

Ultra-Lox™ R & M Aluminum Oxide

Printing Date: June 1, 2015

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade Name : Ultra-Lox™ R & M Aluminum Oxide
Synonyms : Ultra-lox™ R5, R15, R25, R100, M5, M15, M30, M100

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Electronic industry
Polishing agent for surfaces

1.3 Details of the supplier of the safety data sheet

Company : Eminess Technologies, Inc.
7272 East Indian School Road
Scottsdale, AZ 85251 USA
E-mail address : techinfo@eminess.com
Responsible/issuing person : Product Engineering
1-480-505-3409

1.4 Emergency Telephone Number

Emergency Telephone Number : As above or next toxicological information center

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

2.2 Label elements

GHS Labeling

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

2.3 Other hazards

According to our experience and to the information provided to us, the product does not have any harmful effects if it is used and handled as specified.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Non-Hazardous Ingredients

Component	CAS-No	Weight Percent
Aluminum Oxide	1344-28-1	100

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4. FIRST AID MEASURES

4.1 Description of first aid measures

- General advice : If you do not feel well, seek medical attention (show the label where possible).
- Inhalation : If inhaled, move person to fresh air. If they are having difficulty breathing, give oxygen (if available). Consult a doctor if symptoms continue or get worse.
- Skin contact : In case of contact with skin, wash off with soap and plenty of water. Consult a doctor if you develop skin irritation.
- Eye contact : Rinse the affected eye immediately with plenty of water while keeping the unaffected eye well protected. Consult a doctor if you develop eye irritation.
- Ingestion : Rinse mouth. Seek medical attention if symptoms occur.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

- Suitable extinguishing media : Water spray jet; foam; dry powder; carbon dioxide; product itself is non-combustible; fire extinguishing method of surrounding areas must be discussed.

5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire fighting : None known

5.3 Advice for fire-fighters

- Protective equipment : Closed - full protective clothing (coat and pants) including helmet. Use self-contained breathing apparatus.
- Further information : Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Refer to Section 8: Exposure Controls/Personal Protection.

6.2 Environmental precautions

- Environmental precautions : Do not allow entry to drains, waterways, or soil.

6.3 Methods and materials for containment and cleaning up

- Methods for cleaning up : Pick up with vacuum cleaner if possible. Keep in suitable, closed containers for disposal. Dispose of material in accordance with local regulations.

6.4 Reference to other sections

- Additional advice : Information regarding safe handling, see Section 7.
Information regarding personal protective measures, see Section 8.
Information regarding waste disposal, see Section 13.

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7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling : Provide good ventilation of working area (local exhaust ventilation if necessary).
 Avoid creating dusty conditions. Wear appropriate personal protective equipment.

Advice on protection against fire and explosion : Observe the general rules of industrial fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep only in unopened original container.
 Use polyolefin containers.

Further information on storage conditions : Keep container tightly closed and dry in a cool, well-ventilated place.

Advice on common storage : Do not store or transport together with food stuffs.

7.3 Specific end uses : Determined by user

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure Guidelines

Components with workplace control parameters

Components	CAS-No	Control Parameters	Basis
Aluminum Oxide	1344-28-1	15 mg/m ³ (Total dust) 5 mg/m ³ (Respirable fraction)	OSHA

8.2 Exposure controls

Engineering measures

Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid practices which generate dust.

Personal protective equipment

Respiratory protection : Use respiratory protection in case of insufficient exhaust

Hand protection : Break through time: >10 min.
 Glove thickness: > 0.4 mm
 For short-term exposure: Nitrile rubber gloves
 Remarks: These types of protective gloves are offered by various manufacturers. Please note the manufacturers' detailed statements, especially about the minimum thickness and the minimum breakthrough time. Consider also the particular working conditions under which the gloves are being used.

Eye protection : Tightly fitting safety glasses

Skin and body protection : Protective clothing

Hygiene measures : When using do not eat, drink or smoke. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Remove and wash contaminated clothing before reuse.

Protective measures : Avoid contact with eyes and skin. Observe the usual precautions for handling chemicals.

Environmental exposure controls

General advice : Do not allow entry to drains, water courses or soil.

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Form : Solid powder
Color : White to translucent white
Odor : Odorless

Safety data

Upper/lower flammability : Not determined
Vapor pressure : Not determined
Density : 3.99 g/cm³
pH : Not determined
Relative density : Not determined
Melting point : Approx. 2030 °C
Solubility(ies) : Insoluble
Boiling point/Boiling range : Not determined
Flash point : Not determined
Evaporation rate : Not determined
Flammability (solid, gas) : Not determined
Partition coefficient:
n-octanol/water : Not determined
Auto-ignition temperature : Not determined
Decomposition temperature : Not determined
Viscosity : Not determined

9.2 Other information

No further relevant information available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : No further relevant information available.

10.5 Incompatible materials

Materials to avoid : No further relevant information available.

10.6 Hazardous decomposition products

Hazardous decomposition products : No decomposition if stored and applied as directed.

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11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Data for Aluminum Oxide (1344-28-1)

Acute oral toxicity	: LD50 > 5000 mg/kg (rat)
Acute inhalation toxicity	: LC50 > 5 mg/l (rat)
Acute dermal toxicity	: No further relevant information available.
Skin irritation	: No further relevant information available.
Eye irritation	: Short time, reversible irritation

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic toxicity : No further relevant information available.

12.2 Persistence and degradability

Biodegradability : Inorganic material, not degradable.

12.3 Bioaccumulative potential : No further relevant information available.

12.4 Mobility in soil : No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
vPvB: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

No further relevant information available

Additional ecological information : No further relevant information available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Additional information : Product should be taken to a suitable and authorized waste disposal site in accordance with relevant regulations and if necessary after consultation with the waste disposal operator and/or the competent authorities.

Contaminated packaging : Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

14. TRANSPORT INFORMATION

DOT : Not dangerous goods

IATA : Not dangerous goods

IMDG : Not dangerous goods

TDG : Not dangerous goods

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15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

United States : The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for the substance(s) that makes/make up this material or for the material itself.

16. OTHER INFORMATION

Further information

Further information : Observe national and local legal requirements

All statements, technical information and recommendations contained herein are based on tests and data which this company believes to be currently reliable, however, the accuracy or completeness thereof is not guaranteed and no warranty of any kind is made with respect thereto. This information is not intended as a license to operate under nor a recommendation to practice or infringe any patent of this company or others covering any process, composition or matter or use. Since the company shall have no control of the use of the product described herein, the company assumes no liability for loss or damage incurred from the proper or improper use of such product. The company assumes no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose.