Material Safety Data Sheet
FOR INDUSTRIAL USE ONLY
EPON(TM) Resin 862
Revision Date 08-NOV-2012

1. Product and company identification

<table>
<thead>
<tr>
<th>Product name</th>
<th>EPON(TM) Resin 862</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSDS Number</td>
<td>800674</td>
</tr>
<tr>
<td>Internal code</td>
<td>K8124</td>
</tr>
<tr>
<td>Product Type</td>
<td>Epoxy Resin</td>
</tr>
<tr>
<td>Product use</td>
<td>Industrial use.</td>
</tr>
</tbody>
</table>

Manufacturer, Importer, Supplier
Momentive Specialty Chemicals Inc.
180 East Broad Street
Columbus OH 43215

4information@momentive.com

Print date
17-JAN-2013

Telephone
For Emergency Medical Assistance
Call Health & Safety Information Services, 1-866-303-6949

For Emergency Transportation Information
CHEMTREC US Domestic (800) 424-9300
CHEMTREC International (703) 527-3887
CANUTEC CA Domestic (613) 996-6666

For additional health and safety or regulatory information, call 1 888 443 9466.

2. Hazards identification

<table>
<thead>
<tr>
<th>Form</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>slight</td>
</tr>
<tr>
<td>OSHA/HCS status</td>
<td>This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).</td>
</tr>
</tbody>
</table>

Emergency overview
WARNING!
CAUSES EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE RESPIRATORY TRACT IRRITATION.

Potential acute health effects
Inhalation Slightly irritating to the respiratory system.

Ingestion Not expected to be harmful under normal conditions of use.

Skin Irritating to skin. May cause sensitization by skin contact.
Eyes
Irritating to eyes.

Potential chronic health effects
Chronic effects
Contains material that may cause target organ damage, based on animal data.
Carcinogenicity
No known significant effects or critical hazards.
Mutagenicity
No known significant effects or critical hazards.
Teratogenicity
No known significant effects or critical hazards.
Developmental effects
No known significant effects or critical hazards.
Fertility effects
No known significant effects or critical hazards.
Target organs
Review Section 2 and 11 for any additional assessments.

Over-exposure signs/symptoms
Inhalation
Adverse symptoms may include the following: respiratory tract irritation, coughing,
Ingestion
No specific data.
Skin
Adverse symptoms may include the following: irritation, redness,
Eyes
Adverse symptoms may include the following: pain or irritation, watering, redness,
Medical conditions aggravated by over-exposure
Pre-existing skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See section 11 for more detailed information on health effects and symptoms.

3. Composition/Information on ingredients

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>CAS number</th>
<th>WT %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol-Formaldehyde Polymer Glycidyl Ether</td>
<td>28064-14-4</td>
<td>100.0</td>
</tr>
</tbody>
</table>

** Any applicable Canadian trade secret numbers will be listed in Section 15.

4. First aid measures

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.

Skin contact
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation
Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If
unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if adverse health effects persist or are severe.

Ingestion

Wash mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first aid personnel

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting measures

Flammability of the product

In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable

Use dry chemical, CO2, water spray (fog) or foam.

Not suitable

Do not use water jet.

Special exposure hazards

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products

Decomposition products may include the following materials: Fumes and vapors from the thermal and chemical decompositions vary widely in composition and toxicity, carbon monoxide, aldehydes, other organic compounds,

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8 of SDS).

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Large spill

Stop leak if without risk. Move containers from spill area. Approach
release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13 of SDS). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

Small spill
Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling
Put on appropriate personal protective equipment (see section 8 of SDS). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage
Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures
If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures
Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures
Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to

1/17/2013
Respiratory

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Recommended:
- Butyl rubber gloves
- Nitrile rubber gloves

Eyes

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state: Liquid
Color: light yellow
Odor: slight
Odor threshold: Not available
pH: Estimated. 7
Boiling point: Greater than 200 °C (392 °F)
Flash point: Greater than 150 °C (302 °F)
Evaporation rate: Not available
Flammable limits
  Upper: Not available
  Lower: Not available
Vapor pressure: 82 Pa @20 °C (68 °F)
Vapor density: Not available
Relative density: Not available
Solubility: Negligible
Partition coefficient: LogPow 3
n-octanol/water
Auto-ignition temperature: Greater than > 300 °C (> 572 °F)
Decomposition temperature: Not available
Viscosity: Kinematic: Not available
  Dynamic: 2.5 - 4.5 Pa·s @25 °C (77 °F)
10. Stability and reactivity

Reactivity
Stable under normal conditions.

Stability
The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid
Strong oxidizer,

Materials to avoid
Reactive or incompatible with the following materials: strong oxidizing agents, strong acids, aliphatic amines,

Other hazards
Reacts with considerable heat release with some curing agents. Run-a-way cure reactions may char and decompose the resin system, generating unidentified fumes and vapors which may be toxic. Heating this substance above 300 deg. F in the presence of air may cause slow oxidative decomposition; above 500 deg. F polymerization may occur. Some combinations of resins and curing agents can produce exothermic reactions which in large masses can cause runaway polymerization and charring of the reactants

Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Acute toxicity

Ingredient name

Other Toxicological Information

Carcinogenicity

Classification

Ingredient name
Phenol-Formaldehyde Polymer Glycidyl Ether

ACGIH Not classified
IARC Not classified
NTP Not listed
OSHA Not classified

12. Ecological information

Environmental effects
This product shows a bioaccumulation potential.

Other adverse effects
No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal
The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of
environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

<table>
<thead>
<tr>
<th>International transport regulations</th>
<th>UN/NA number</th>
<th>Proper shipping name</th>
<th>Classes/*PG</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFR</td>
<td></td>
<td>Non-regulated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDG</td>
<td></td>
<td>Non-regulated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMO/IMDG</td>
<td></td>
<td>Non-regulated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IATA (Cargo)</td>
<td></td>
<td>Non-regulated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*PG : Packing group

15. Regulatory information

US regulations

HCS Classification

Irritating material, Sensitizing material, Target organ effects

U.S. Federal regulations

SARA 311/312 Classification Immediate (acute) health hazard, Delayed (chronic) health hazard

SARA 313 - Supplier Notification

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.

None required.

SARA 302 Extremely Hazardous Substances None required.

State regulations

Massachusetts RTK Substances None required.

New Jersey RTK Hazardous Substances None required.

Pennsylvania RTK Hazardous Substances None required.

California Prop. 65: WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. Epichlorohydrin - 106-89-8,

Canada

WHMIS (Canada)

Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

Canadian NPRI: None required.

International regulations

Chemical Inventories

Philippines inventory (PICCS): All components are listed or exempted.

New Zealand inventory (NZIoC) Not determined.

Korea inventory All components are listed or exempted.

1/17/2013
16. Other information

Hazardous Material Information System III (U.S.A.)

Health: 2
Flammability: 1
Physical hazards: 0
Chronic: *

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.
The customer is responsible for determining the PPE code for this material.

Prepared by: Product Safety & Regulatory Compliance Group, (614) 225-4778
Date of issue: 08-NOV-2012
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Version: 8.6

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