SECTION 1: IDENTIFICATION

Product name: PENETONE 1112A
Recommended use: Carbon remover
Physical Description: Clear water white liquid with glycol ether odor
Generic Ingredients: Water, glycol ethers, alkanolamine, surfactant

Manufacturer: Penetone Corporation
700 Gotham Parkway
Carlstadt, NJ 07072
800-631-1652 or 201-567-3000

Business Contact:
Customer Service
800-631-1652 x2602 or 2272
Product Safety
800-631-1652 x2211 or 2257

Emergency Phone Numbers: PENETONE 201-567-3000 CHEMTREC 800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health:
Skin corrosion: 1C
Eye damage: 1

Physical: not classified

DANGER!
Causes Severe Skin Burns and Eye Damage.

Precautionary Statements:

Prevention:
Do not breathe mists if inhalable mists occur during use. Wear protective gloves, clothing, eye protection, and face protection.
Wash hands and exposed skin thoroughly after handling.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center, doctor, emergency room, or 911.

Response:
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin or hair: Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage:
Store locked up.

Disposal:
Dispose of contents/container in accordance with local, regional, and national regulations (see Sections 13 and 15 of SDS for disposal and reporting requirements).

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS#</th>
<th>Concentration Wt% (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>75-90</td>
</tr>
<tr>
<td>Ethanolamine</td>
<td>141-43-5</td>
<td>10-25</td>
</tr>
<tr>
<td>1-Butoxyethanol</td>
<td>111-76-2</td>
<td>1-10</td>
</tr>
<tr>
<td>Diethylene glycol methyl ether</td>
<td>111-77-3</td>
<td>1-10</td>
</tr>
<tr>
<td>Ethoxylated nonylphenol</td>
<td>127087-87-0</td>
<td>1-10</td>
</tr>
<tr>
<td>Diethylene glycol butyl ether</td>
<td>112-34-5</td>
<td>1-10</td>
</tr>
</tbody>
</table>

(1) Exact percentages being withheld under trade secret provision of OHSA HCS 1910.1200(i)
SECTION 4: FIRST-AID MEASURES

General Description of Symptoms & First-Aid Measures
Most likely work-place exposure routes will be skin contact or inhalation.

For skin contact, typically no immediate effects will be observed. A tingling or burning sensation might be felt some time after exposure. Slight reddening or minor irritation could also develop if product is not quickly washed off. If product not washed off or left in contact with skin for some time, skin burn could result.

Inhalation exposure may produce varied effects, particularly if exposure occurs above the recommended workplace exposure limits (see SECTION 8). Typical symptoms could include coughing, sneezing, and a tingling or burning sensation in the nose, throat, and lungs.

Eyes
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a local Poison Control Center, doctor, physician or other competent medical authority for medical advice. Penetone recommends that after any eye exposure a physician be seen immediately.

Ingestion
If swallowed: Rinse mouth. DO NOT INDUCE VOMITING. Immediately call a poison center, doctor, physician or other competent medical authority for medical advice.

Inhalation
If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a local Poison Control Center, physician, or other competent medical authority for medical advice.

Skin
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. A mild soap may be used to wash skin. Wash contaminated clothing before reuse. Immediately call a local Poison Control Center, doctor, physician or other competent medical authority for medical advice.

Special Treatment / Other
None

SECTION 5: FIRE FIGHTING MEASURES

Flammable Properties
Classification: Non-flammable
Flash Point: None-to-boil
Autoignition Temperature: not determined
Lower Flammable Limit: Not applicable  Upper Flammable Limit: Not applicable

Specific Hazards
Product is water based and water dilutable and presents no unusual fire hazards.

Extinguishing Media
Use extinguishing agents appropriate for controlling surrounding fire.

Unsuitable: None.

Protection & Precautions for Firefighters
Protective Equipment & Clothing: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will only provide limited protection.

Fire Fighting Guidance:  Cool containers with flooding quantities of water until well after fire is out. Move containers from fire area if you can do it safely. Dike fire control water for later disposal; do not scatter material.
Containers can expand and explode under fire conditions due to vapor buildup. Always stay away from containers engulfed in fire.

**Hazardous Combustion Products:** Smoke, fumes, and oxides of carbon and nitrogen when taken to dryness.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**Land Spill**
Adsorb spillage to prevent material damage. Stop leak if you can do it safely. For large spills, dike and pump into properly labeled containers for reclamation or disposal. For small spill, soak up with absorbent material and place in properly labeled containers for disposal. Neutralize residue with dilute acid and follow with a liberal covering of sodium bicarbonate or other acceptable drying agent.

**Water Spill**
This is a water based product and will completely mix/dissolve in water making recovery difficult. This product is alkaline and may raise the pH of surface waters with low buffering capacity. Check with local environmental regulatory agencies for reporting requirements.

*See SECTION 8 for EXPOSURE CONTROLS and PERSONAL PROTECTION.*

**SECTION 7: HANDLING & STORAGE**

**Handling**
Avoid contact with eyes, skin and clothing. After handling, always wash hands thoroughly with soap and water. Avoid personal contact with any residue. Do not cut, weld, or reuse empty container.

**Storage**
Store locked up. Keep container tightly closed when not in use. Do not store near strong acids or strong oxidizers. Do not store in direct sunlight. Avoid storing above 120°F (49°C).

**SECTION 8: EXPOSURE CONTROLS and PERSONAL PROTECTION**

**Engineering Controls**
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

**Personal Protection**

*Inhalation* A respiratory protection program that meets OSHA’s 29 CFR 1910.134 or ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use. Use of an organic vapor mask or respirator is recommended.

*Skin* Wear chemical resistant gloves such as: rubber, nitrile, neoprene, or latex when skin contact is possible. Protective clothing including gloves, apron, sleeves, boots, head and face protection should be worn depending on how the product is used. PPE should be cleaned thoroughly after each use.

*Eyes* Penetone recommends always wearing safety glasses as a minimum in any workplace. Conditions may warrant the use of chemical goggles and possibly a face shield. Consult your standard operating procedure or safety professional for advice. Use protective eye and face devices that comply with ANSI Z87.1-1987.

**Additional Remarks**
Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use.
SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Appearance: clear water white liquid
Odor: glycol ether
Odor Threshold: not determined
pH: 12-12.5
Melting Point / Freezing: about 25°F
Boiling Point / Boiling Point Range: about 212°F
Flash Point: none to boiling point
Evaporation Rate: equal to water
Flammability: not applicable
Lower Flammable Limit: not determined
Upper Flammable Limit: not determined
Explosive Properties: not applicable
Vapor Pressure: equal to water
Relative Vapor Density: equal to water
Relative Density: 0.99
Solubility (Water): soluble in water
Partition Coefficient (Kow): not determined
Auto-ignition temperature: not determined
Decomposition temperature: not determined
Viscosity: less than 5 centipoise at room temperature

SECTION 10: STABILITY & REACTIVITY

Reactivity
Product will react with acids, giving off heat and possible splattering.

Chemical Stability
Stable.

Hazardous Reactions
Mixing with acids will give off heat and may cause splattering. Hazardous polymerization will not occur.

Conditions to Avoid
Alkaline liquid. Do not store near strong bases. Do not store near strong oxidizers.

Incompatible Materials
Strong acids, strong oxidizers.
Hazardous Decomposition Products
Oxides of carbon and nitrogen.

SECTION 11: TOXICOLOGICAL INFORMATION

Product Summary
Product is corrosive to skin, eyes, and other tissues, including oral and gastrointestinal. Mists can be corrosive to the eyes and respiratory tract. Ingestion may result in severe damage to the mouth, tongue, throat, and esophagus. Vapor concentrations above recommended exposure levels may cause headaches, dizziness, drowsiness, unconsciousness and other central nervous system effects.

Acute Toxicity:
- Dermal: LD50 > 5,000 g/kg rabbit (estimated using additivity formula)
- Inhalation: No data available
- Oral: LD50 >2,000 mg/kg rat (estimated using additivity formula)

Skin Corrosion/Irritation
Short term exposure may be irritating. Longer term exposure may cause severe irritation or possibly burns. Prolonged or repeat skin exposures can result in dermatitis.

Serious Eye Damage/Irritation
Short term exposure may be irritating. Longer term exposure can cause serious eye damage which can result in severe irritation, pain and burns, and permanent damage including blindness.

Sensitization - Respiratory or Skin
Based upon components, product is not expected to be a respiratory or skin sensitizer.

Germ Cell Mutagenicity
Based upon components, product is not expected to result in germ cell mutagenicity.

Carcinogenicity
Ethylene glycol monobutyl ether is listed by ACGIH as Group A3: confirmed animal carcinogen with unknown relevance to humans.

Reproductive Toxicity
No data available.

Monoethanolamine and the nonionic surfactants used in this product have produced effects in the fetus only at levels that were toxic to the parent animals.

Ethylene glycol monobutyl ether has been toxic to the fetus lab animals at doses toxic to the mother. Effects on reproduction have been seen only at doses that produced significant toxicity to the parent animal.

Diethylene glycol methyl ether has resulted in birth defects in the fetus following high doses which have little relevance to human exposure.

The nonionic surfactant used in this product has produced effects in the fetus only at levels that were toxic to the parent animals.

Specific Target Organ Effects - Single Exposure
No data.

Specific Target Organ Effects - Repeated or Prolonged Exposure
No data available.

Monoethanolamine: kidney and liver effects were found in the kidney and liver of lab animals at high feeding levels over extended periods of time.
Repeated exposure to ethylene glycol monobutyl ether has caused hemolysis and secondary effects on the kidney and liver in lab animals. Small but statistically significant increases in tumors were observed in mice but not rats. These effects are not believed to be relevant to humans.

Diethylene glycol methyl ether has produced effects in the liver and kidney of lab animals, and at very high oral doses, in the testes and thymus.

Diethylene glycol butyl ether has had effects on the kidney, liver, and blood of lab animals at high feeding levels over extended periods of time.

**Aspiration Hazard**
Based upon components, product not expected to be an aspiration hazard.

### SECTION 12: ECOLOGICAL INFORMATION

**Product Summary**
This material is alkaline and may raise the pH of surface waters with low buffering capacity. Product considered toxic to aquatic organisms. (Acute aquatic toxicity category 2 by European Union classification).

**Ecotoxicity**
LC50/EC50/IC50 for aquatic vertebrates, aquatic invertebrates, and algae estimated to be in the range of 10-100 mg/l. IC50 for bacteria estimated to be >1,000 mg/l. All values estimated using additivity formula.

**Persistence and Degradability**
No data available. Based upon component data, product is expected to be readily biodegradable.

**Bioaccumulative Potential**
No data available. Bioaccumulation potential of the materials used in this product are low to moderate.

**Mobility in soil**
Product consists of water soluble ingredients. Soil mobility for product as a whole would be considered to be high.

**Other Adverse Effects**
None known

### SECTION 13: DISPOSAL CONSIDERATIONS

Product is a D002 Corrosive Hazardous Waste under RCRA definitions. Dispose of contents/container in accordance with all applicable federal, state, and local regulations.

**Note:** Contaminated product, soil, water, container residues and spill cleanup materials may be hazardous wastes. Appropriate hazardous waste designation is the responsibility of the user.

### SECTION 14: TRANSPORT INFORMATION

- **ID No.**: UN3267
- **Proper Shipping Name**: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (contains ethanolamine)
- **Hazard Class**: 8
- **Packing Group**: III
- **Label**: CORROSIVE
- **Marine Pollutant**: No
- **RQ**: None
- **Special Precautions**: None
SECTION 15: REGULATORY INFORMATION

TSCA
The ingredients in this product are listed on the TSCA inventory.

RCRA HAZARD CLASS
D002 corrosive hazardous waste

SARA 311/312 REPORTABLE HAZARD CATEGORIES: Immediate (Acute) Health

REPORTING REQUIREMENTS (all quantities in pounds)

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS / 313 Code</th>
<th>Section 302 (EHS) TPQ</th>
<th>Section 304 EHS RQ</th>
<th>CERCLA RQ</th>
<th>Section 313</th>
<th>CAA 112(r) TQ</th>
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<tr>
<td>1-Butoxyethanol</td>
<td>N230 Glycol ethers</td>
<td>(1) 313</td>
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</table>

(1) This material is not subject to any special reporting under the requirements of CERCLA. CERCLA petroleum exclusion applies for this product. Contact local authorities to determine if other reporting requirements apply.

NEW JERSEY RIGHT-TO-KNOW INFORMATION
This product contains water (CAS# 7732-18-5), ethanolamine (CAS 141-43-5), 1-butoxyethanol (CAS 111-76-2), diethylene glycol methyl ether (111-77-3), ethoxylated nonylphenol (CAS 127087-87-0), and diethylene glycol butyl ether (CAS 112-34-5).

CALIFORNIA PROPOSITION 65 INFORMATION
This product does not contain any chemicals recognized by the state of California to cause cancer and/or birth defects or reproductive harm.

SCAQMD INFORMATION
Is there a photochemically reactive material present? No
What is the % by volume of photochemically reactive material? 0
What is the VOC content? 400 g/l
What is the vapor pressure of VOC's? <1 mm Hg at 20°C

SECTION 16: OTHER INFORMATION

REVISION SUMMARY
New GHS format

SUPERSEDES ISSUE DATE
July 31, 2013

HAZARD RATING SYSTEMS:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>HMIS</th>
<th>NFPA</th>
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<tr>
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<tr>
<td>FLAMMABILITY</td>
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</tr>
<tr>
<td>REACTIVITY</td>
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<tr>
<td>B</td>
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</tbody>
</table>

KEY
4 = Severe
3 = Serious
2 = Moderate
1 = Slight
0 = Minimal