1. Product and Company Identification

Material name: LPS® Precision Clean (Concentrate)
Version #: 01
Issue date: 12-11-2012
CAS #: Mixture
Part Number: 02701, 02705, 02755
Product use: An industrial cleaner designed to remove grime, oils and light grease from metal, concrete and other durable surfaces.

Manufacturer information:
LPS Laboratories, a division of Illinois Tool Works
4647 Hugh Howell Rd
Tucker, GA 30084 United States
www.lpslabs.com
1-800-241-8334 / 770-243-8800
Chemtrec 1-800-424-9300

2. Hazards Identification

Emergency overview: CAUTION

Harmful if absorbed through skin. Causes skin and eye irritation. Prolonged exposure may cause chronic effects.

OSHA regulatory status: This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects:

Routes of exposure:
- Inhalation
- Ingestion
- Skin contact
- Eye contact

Eyes:
May irritate eyes. Do not get this material in contact with eyes.

Skin:
Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Avoid contact with the skin.

Inhalation:
May cause irritation of respiratory tract. Avoid breathing dust/fume/gas/mist/vapors/spray.

Ingestion:
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Do not ingest.

Target organs:
Skin, Eyes, Respiratory system.

Chronic effects:
Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Signs and symptoms:
Health injuries are not known or expected under normal use. Irritating to eyes and skin. Symptoms may include redness, edema, drying, defatting and cracking of the skin.

Potential environmental effects:
Ecological injuries are not known or expected under normal use.

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicic acid, DISODIUM SALT</td>
<td>6834-92-0</td>
<td>2.5 - 10</td>
</tr>
<tr>
<td>Dipropylene Glycol Monomethyl Ether</td>
<td>34590-94-8</td>
<td>1 - 2.5</td>
</tr>
<tr>
<td>Coconut Fatty Acid Diethanolamide</td>
<td>68603-42-9</td>
<td>0.1 - 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-hazardous components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrapotassium pyrophosphate</td>
<td>7320-34-5</td>
<td>2.5 - 10</td>
</tr>
</tbody>
</table>

Other components below reportable levels: 90 - 100

4. First Aid Measures

First aid procedures:

Eye contact:
Remove contact lenses, if present and easy to do. Rinse with plenty of water. Get medical attention if irritation develops and persists.

Skin contact:
Remove and isolate contaminated clothing and shoes. Wash off with soap and water. For minor skin contact, avoid spreading material on unaffected skin. If skin irritation occurs: Get medical advice/attention. Wash clothing separately before reuse.
Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Do not induce vomiting without advice from poison control center. Never give anything by mouth to a victim who is unconscious or is having convulsions. If vomiting occurs, keep head low so that stomach content doesn’t get into the lungs. Call a physician or poison control center immediately.

Notes to physician
Provide general supportive measures and treat symptomatically. Oxygen, if needed. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General advice
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Flammable properties
None known.

Extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Protection of firefighters
Wear suitable protective equipment.

Fire fighting equipment/instructions
Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.

6. Accidental Release Measures

Personal precautions
Local authorities should be advised if significant spillages cannot be contained. Immediately evacuate personnel to safe areas. Keep people away from and upward of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.

Environmental precautions
Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Avoid release to the environment. Do not contaminate water.

Methods for containment
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. Dike the spilled material, where this is possible. Collect spillage. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Methods for cleaning up
Ventilate the contaminated area. Wear appropriate protective equipment and clothing during clean-up.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent product from entering drains. Do not allow material to contaminate ground water system. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. Clean up in accordance with all applicable regulations. This material and its container must be disposed of as hazardous waste. For waste disposal, see section 13 of the MSDS.

7. Handling and Storage

Handling
DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not breathe vapor. Do not breathe dust. Do not get this material in contact with eyes. Do not get this material in contact with skin. Avoid prolonged exposure. Do not get this material on clothing. Use only outdoors or in a well-ventilated area. Wear personal protective equipment. Wash thoroughly after handling. Avoid release to the environment. Do not empty into drains.
8. Exposure Controls / Personal Protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>US. ACGIH Threshold Limit Values</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Components</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diethanolamine (CAS 111-42-2)</td>
<td>TWA</td>
<td>1 mg/m³</td>
<td>Inhalable fraction and vapor.</td>
</tr>
<tr>
<td>Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8)</td>
<td>STEL</td>
<td>150 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>100 ppm</td>
<td></td>
</tr>
<tr>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Components</td>
<td>Type</td>
<td>Value</td>
<td></td>
</tr>
<tr>
<td>Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8)</td>
<td>PEL</td>
<td>600 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100 ppm</td>
<td></td>
</tr>
<tr>
<td>US. NIOSH: Pocket Guide to Chemical Hazards</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Components</td>
<td>Type</td>
<td>Value</td>
<td></td>
</tr>
<tr>
<td>Diethanolamine (CAS 111-42-2)</td>
<td>REL</td>
<td>15 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 ppm</td>
<td></td>
</tr>
<tr>
<td>Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8)</td>
<td>REL</td>
<td>600 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100 ppm</td>
<td></td>
</tr>
<tr>
<td>STEL</td>
<td></td>
<td>900 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>150 ppm</td>
<td></td>
</tr>
</tbody>
</table>

Exposure guidelines

<table>
<thead>
<tr>
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<td></td>
</tr>
<tr>
<td>Diethanolamine (CAS 111-42-2)</td>
<td></td>
<td>Can be absorbed through the skin.</td>
</tr>
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<td>Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8)</td>
<td></td>
<td>Can be absorbed through the skin.</td>
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<td>Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Can be absorbed through the skin.</td>
</tr>
</tbody>
</table>

Engineering controls

Personal protective equipment

<table>
<thead>
<tr>
<th>Eye / face protection</th>
<th>Avoid contact with eyes. Wear safety glasses with side shields (or goggles). Eye wash fountain is recommended.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin protection</td>
<td>Avoid contact with the skin. Avoid contact with clothing. Wear protective gloves. Use personal protective equipment as required.</td>
</tr>
<tr>
<td>Respiratory protection</td>
<td>Do not breathe dust/fume/gas/mist/vapors/spray. If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.</td>
</tr>
<tr>
<td>General hygiene considerations</td>
<td>When using, do not eat, drink or smoke. Do not breathe dust. Avoid contact with skin. Avoid contact with eyes. Do not get this material on clothing. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.</td>
</tr>
</tbody>
</table>

9. Physical & Chemical Properties

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Liquid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Form</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Greenish-blue.</td>
</tr>
<tr>
<td>Odor</td>
<td>Citrus</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>12.8</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>&lt; 17.5 mm Hg estimated</td>
</tr>
</tbody>
</table>

Material name: LPS® Precision Clean (Concentrate)
Vapor density > 1
Boiling point 212 °F (100 °C)
Melting point/Freezing point Not available.
Solubility (water) 100 %
Specific gravity 1.06
Relative density Not available.
Flash point None
Flammability limits in air, upper, % by volume Not Established
Flammability limits in air, lower, % by volume Not Established
Auto-ignition temperature Not available.
VOC 1.5 %
Evaporation rate 1 BuAc
Percent volatile Not established
Other data Density 8.84 lb/gal

10. Chemical Stability & Reactivity Information

Chemical stability Material is stable under normal conditions.
Conditions to avoid Reacts violently with strong acids. This product may react with oxidizing agents. Do not mix with other chemicals.
Incompatible materials Oxidizing agents.
Hazardous decomposition products Carbon oxides. Nitrogen oxides (NOx).
Possibility of hazardous reactions Hazardous polymerization does not occur.

11. Toxicological Information

Sensitization Not classified.
Acute effects May be harmful if inhaled.
Local effects May irritate eyes and skin. May cause irritation of respiratory tract.
Chronic effects Hazardous by OSHA criteria. Prolonged inhalation may be harmful. Repeated absorption may cause chronic effects.
Carcinogenicity Possible cancer hazard - may cause cancer based on animal data.

ACGIH Carcinogens
Diethanolamine (CAS 111-42-2) A3 Confirmed animal carcinogen with unknown relevance to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity
Coconut Fatty Acid Diethanolamide (CAS 68603-42-9) 2B Possibly carcinogenic to humans.
Diethanolamine (CAS 111-42-2) 2B Possibly carcinogenic to humans.

Skin corrosion/irritation Hazardous by OSHA criteria. None known.
Epidemiology No epidemiological data is available for this product.
Mutagenicity Not available.
Neurological effects Hazardous by OSHA criteria.
Reproductive effects Not available.
Symptoms and target organs None known.
Further information Symptoms may be delayed.

12. Ecological Information

Ecotoxicity Not expected to be harmful to aquatic organisms.
Environmental effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Aquatic toxicity  May cause long-term adverse effects in the aquatic environment.
Persistence and degradability  Expected to biodegrade.
Bioaccumulation / Accumulation

Bioaccumulative potential

Octanol/water partition coefficient log Kow
Diethanolamine  -1.43

Partition coefficient
Diethanolamine  -1.43

13. Disposal Considerations
Waste codes
D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]

Disposal instructions
Contract with a disposal operator licensed by the Law on Disposal and Cleaning. This material and its container must be disposed of as hazardous waste. Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.

Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Avoid discharge into water courses or onto the ground.

Contaminated packaging
Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information
General
This material is not regulated by any mode of transportation.

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

15. Regulatory Information
US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components of this product are TSCA inventory listed and/or are exempt.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number
Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))
Not regulated.

DEA Exempt Chemical Mixtures Code Number
Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration
Diethanolamine (CAS 111-42-2)  1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance
Diethanolamine (CAS 111-42-2)  Listed.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA (Superfund) reportable quantity
None

Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No
SARA 302 Extremely hazardous substance No
SARA 311/312 Hazardous chemical No

State regulations

US - New Jersey RTK - Substances: Listed substance
- Diethanolamine (CAS 111-42-2) Listed.
- Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8) Listed.

US. Massachusetts RTK - Substance List
- Diethanolamine (CAS 111-42-2)
- Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8)

US. Pennsylvania RTK - Hazardous Substances
- Diethanolamine (CAS 111-42-2) Listed.
- Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8) Listed.

US. Rhode Island RTK
- Diethanolamine (CAS 111-42-2)
- Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8)

16. Other Information

Further information
HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings
- Health: 1
- Flammability: 0
- Physical hazard: 0

NFPA ratings
- Health: 1
- Flammability: 0
- Instability: 0

Disclaimer
This safety data sheet was prepared in accordance with the Safety Data Sheet for Chemical Products (JIS Z 7250:2010). Additional information is given in the Material Safety Data Sheet. The information in the sheet was written based on the best knowledge and experience currently available.