1 PRODUCT AND COMPANY IDENTIFICATION

Manufacturer
The Penray Companies
440 DENNISTON
WHEELING, IL 60090

Contact: EH&S Department
Telephone Number: 847-459-5041
FAX Number: 847-459-5043
E-Mail: 
Web: 

Product Name: Penray non-chlorinated ultra low VOC brake cleaner-4755
Revision Date: 04/26/2009
Version: 1
MSDS Number: 4755
Common Name: NON-AEROSOL BRAKE CLEANER CONTAINING ORGANIC SOLVENTS
RCRA Number: D001
Product Use: Non-Chlorinated Brake Cleaner in a 55 gal drum

2 HAZARDS IDENTIFICATION

Route of Entry: Ingestion; inhalation; Skin; aspiration; Eyes
Target Organs: NA
Inhalation: Vapours appear at normal working temperature. According to dose, exposure via this route of entry may cause pulmonary edema, also known as dry-land-drowning.
Skin Contact: Exposure via this route of entry will cause irritation.
Eye Contact: Direct contact will cause severe irritation, redness, tearing and blurred vision, and possibly blindness.
Ingestion: Aspiration hazard. Exposure via this route of entry may CAUSE DEATH OR BLINDNESS

HMIS II-ratings (scale 0-4): Health = 3, Fire = 4, Reactivity = 0
HMIS® Rating H3/F4/PH0
NFPA-ratings (scale 0-4): Health = 3, Fire = 4, Reactivity = 0

Signal word: DANGER

HAZARD OVERVIEW: Highly flammable. Vapor may cause flash fire. Eye hazard
Prolonged unprotected exposure to this product will cause skin irritation. Material splashed in eyes may damage cornea.

Carcinogen listing by: National Toxicology Program (NTP)
I.A.R.C - Group 3 (Not classifiable to humans)
OSHA (NO)
ACGIH (NO)
This product does NOT require a cancer hazard warning in accordance with the OSHA Hazard Communication Standard.

Burning product may produce colorless vapor. Heated vapors in the presence of an ignition source can be explosive if confined. When burned, the product will produce carbon monoxide and other asphyxiants during combustion.

CANADA WHMIS classification: CONTROLLED PRODUCT
D2A- Materials causing other toxic effects.
B2- Flammable Liquids

NOT INTENDED FOR HOUSEHOLD USE!

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THE INFORMATION IN THE MATERIAL SAFETY DATA SHEET (MSDS) SHALL BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THE PENRAY COMPANIES INC. ENCOURAGES AND EXPECTS THE USER, DISTRIBUTOR, HANDLER TO READ THE ENTIRE MSDS, AND CONSULT APPROPRIATE EXPERTISE AS NECESSARY, TO BECOME AWARE OF AND FULLY UNDERSTAND THE INFORMATION CONTAINED IN THE MSDS AND OF ANY OCCUPATIONAL HAZARDS ASSOCIATED WITH THIS PRODUCT USE IN THE WORKPLACE.
3 COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT MATERIALS CONSIDERED HAZARDOUS PER FEDERAL, STATE OR PROVINCIAL OCCUPATIONAL HEALTH, AND REGULATORY BODIES

Ingredients:

<table>
<thead>
<tr>
<th>Cas #</th>
<th>Perc.</th>
<th>Chemical Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACETONE</td>
<td>67-64-1</td>
<td>80-100%</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>108-88-3</td>
<td>0-10%</td>
</tr>
</tbody>
</table>

OSHA Regulatory Status:
This MSDS Contains valuable information critical to the safe handling and proper use of this product. This MSDS should be retained and available for employees and other users of this product.

4 FIRST AID MEASURES

Inhalation: Move victim to well ventilated area, and seek medical attention according to symptoms.

Skin Contact: Wash effected area with soap and water.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes, lifting eyelids occasionally to facilitate irrigation. Seek emergency medical attention.

Ingestion: Drink fluids
SEEK emergency medical attention, and INDUCE controlled vomiting under the supervision of a physician.

5 FIRE FIGHTING MEASURES

Flash Point: -4 degrees F, -20 degrees C
Flash Point Method: PMCC
Burning Rate: NA
LEL: 2.5%
UEL: 12.8%
Flammability Classification: IB, WHMIS - Does meet highly flammable criteria to be controlled

Wear self contained breathing apparatus and other protective clothing.
Use any standard agent - choose the one most appropriate for type of surrounding fire.

6 ACCIDENTAL RELEASE MEASURES

Release Measures:
Extinguish any open flames and remove heat sources.
CONTAIN, ABSORB, CONTROL THE SPILLAGE WITH THE SAFEST MOST EFFECTIVE MEANS AT YOUR DISPOSAL.

This material will float on water and will be transported by stormwater runoff. Soils to the ground should be immobilized and removed immediately. Spills to watercourse such as storm drains, sewers, ditches, streams.

For safety and environmental precautions, please review entire Material Safety Data Sheet for necessary information.

* Information about ingredient percentages of product, according to RQ (Reportable Quantity). :Available upon request in the event of major uncontrolled release.

## 7 HANDLING AND STORAGE

### Handling Precautions:
- Handle with care and avoid spillage on the floor (slippage).
- Consider normal working hygiene. DO NOT SMOKE WHILE IN USE
- Do not expose containers to open flame, excessive heat, or direct sunlight.
- Do not puncture or drop containers.
- Use proper bonding and grounding techniques.
- STATIC ACCUMULATOR AND IGNITION POTENTIAL

- DO NOT WEAR CONTACT LENSES WHILE IN USE!

### Storage Requirements:
- Store in cool/dry area;
- Suitable packing materials
- Store in areas designated for the storage of flammable liquids according to NFPA 30 (Flammable and Combustible Liquids Code)

**EMPTY CONTAINER WARNING!**

"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH

Do not attempt to refill or clean containers since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner in accordance with governmental regulations.

For work on tanks, refer to OSHA regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or contemplated operations.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### Engineering Controls:
- Use mechanical (general) ventilation for storage areas.
- All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94)
- and NFPA 30 standards

### Protective Equipment:
- HMIS PP, X | Consult your supervisor for special instructions

If there is likelihood of splashing, chemical impervious clothing should be worn. Never wear oil chemical clothing. Affix warning labels on containers in accordance with 29 CFR 1910.1200 (Hazard Communication Standard)
Exposure Guidelines/Other:

**Exposure Limits:** OSHA permissible exposure limit

- **Acetone**
- **Toluene**

USA OSHA (TWA)/PEL: consult NIOSH pocket guide
ACGIH (TWA/TLV): consult NIOSH pocket guide

Respiratory Protection: X- consult supervisor
Ventilation: X- consult supervisor
Protective Gloves: X- consult supervisor
Eye Protection: X- consult supervisor
Other Protective Equipment: X- consult supervisor

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Note: PERSONAL PROTECTIVE EQUIPMENT (ppe) REQUIREMENTS ARE RELATED TO CONDITIONS OF USE, WHICH CANNOT BE SUITABLY PREDICTED BY THE PRODUCT MANUFACTURER. DETERMINATION OF NECESSARY (ppe) IS THE RESPONSIBILITY OF THE EMPLOYER/ USER, BASED ON ASSESSMENT AND KNOWLEDGE OF THE EMPLOYER’S INDUSTRIAL PROCESSES AND WORKPLACE ENVIRONMENT. IN EVERY CIRCUMSTANCE OF CHEMICAL EXPOSURE, THE EMPLOYER SHALL LIMIT WORKER EXPOSURES TO THIS PRODUCT FIRST BY IMPLEMENTING EFFECTIVE ENGINEERING CONTROLS, AND SECOND BY IMPLEMENTING ADMINISTRATIVE CONTROLS. PERSONAL PROTECTIVE EQUIPMENT (ppe) SHALL BE USED DILIGENTLY BY WORKERS WHEN ENGINEERING AND ADMINISTRATIVE CONTROLS DO NOT FULLY PREVENT OCCUPATIONAL EXPOSURE TO THIS PRODUCT.

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### PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance:</td>
<td>Colorless</td>
</tr>
<tr>
<td>Physical State:</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odor:</td>
<td>Sweet pungent</td>
</tr>
<tr>
<td>pH:</td>
<td>N.A</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>180 mmHg @ 20 degrees C</td>
</tr>
<tr>
<td>Vapor Density:</td>
<td>2</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>56 degrees C</td>
</tr>
<tr>
<td>Freezing/Melting Pt.:</td>
<td>-139 degrees F, -95 degree C</td>
</tr>
<tr>
<td>Solubility:</td>
<td>soluble in water</td>
</tr>
<tr>
<td>Spec Grav./Density:</td>
<td>0.78</td>
</tr>
<tr>
<td>Heat Value:</td>
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</tr>
<tr>
<td>VOC:</td>
<td>3%</td>
</tr>
<tr>
<td>Evap. Rate:</td>
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</tr>
<tr>
<td>Bulk Density:</td>
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</tr>
<tr>
<td>Octanol:</td>
<td>N/A</td>
</tr>
<tr>
<td>Molecular Weight:</td>
<td>NA</td>
</tr>
<tr>
<td>Particle Size:</td>
<td>N/A</td>
</tr>
<tr>
<td>Softening Point:</td>
<td>N/A</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>515.0 SUS at 100 degrees F</td>
</tr>
<tr>
<td>Percent Volatile:</td>
<td>N/A</td>
</tr>
<tr>
<td>Sat. Vap. Concentrat.:</td>
<td>N/A</td>
</tr>
<tr>
<td>Molecular Formula:</td>
<td>N/A</td>
</tr>
</tbody>
</table>
STABILITY AND REACTIVITY

Stability: Product is stable under normal conditions.

Conditions to avoid: Heat, ALL ignition sources

Materials to avoid (incompatibility): Oxidizing Agents, Peroxides

Hazardous Decomposition products: Combustion will produce carbon dioxide and, possibly toxic chemicals such as carbon monoxide.

Hazardous Polymerization: Will not occur.

TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS:

ACUTE STUDIES: High order, severe pulmonary effects if aspirated. May damage Eyes

ACUTE SKIN: Prolonged skin contact tends to remove skins oils, leading to irritation and dermatitis, however, based on human experience and available toxicological data, this product is not judged to be "corrosive" by OSHA criteria.

EYE EFFECTS: Product contacting eyes will cause severe irritation and possible damage and or permanent loss of vision.

ACUTE ORAL: Product very high a order of acute toxicity, amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly blindness or death.

ACUTE INHALATION: Product has a high order of acute toxicity, even small amounts aspirated into the lungs during ingestion or vomiting will cause mild to severe pulmonary injury and possibly death.

Carcinogenicity-NTP/IARC: There is no available evidence known, to state that this chemical product poses a carcinogenic risk in humans under normal conditions of handling and industrial use.

Specific L/D 50 data about product: NOT AVAILABLE

ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS

If applied to leaves, this product will kill grass and small plants by interfering with transpiration and respiration. This product is toxic to fish and will affect gill structures resulting in suffocation if spilled in shallow, stagnate water. Product may be toxic to amphibians by preventing dermal respiration. This product will cause gastrointestinal distress to birds and mammals through ingestion during pelage grooming.

ENVIRONMENTAL FATE

This product is somewhat biodegradable. Biodegradation is possible within 90 to 120 days in aerobic environments at temperatures above 70 degrees F.

IN GENERAL, PRODUCT DEMONSTRATES NEGLIGIBLE WATER SOLUBILITY

WHEN EXPOSED TO THE NATURAL ENVIRONMENT.
Specific L/C 50 data in aquatic environments, about product: NOT AVAILABLE

### DISPOSAL CONSIDERATIONS

**DISPOSAL**

Product, as supplied DOES meet the characteristics of a hazardous waste as defined in 40 CFR 261.21-24. If mixed with other products, waste mixture must be characterized. DO NOT dispose of this product in drains or storm sewers. DO NOT dispose of this product in a landfill.

Dispose of in accordance with local regulations at a suitable waste-disposal site approved by local, state/ provincial authorities.

### TRANSPORT INFORMATION

**DOT:** UN 1993, Flammable Liquids n.o.s, (contains Acetone) class 3, PG II, (Fp -4 F) pmcc

**TDG:** UN 1993, Flammable Liquids n.o.s, (contains Acetone) class 3, PG II, (Fp -20 C) pmcc

**IATA:** UN 1993 Flammable Liquids n.o.s (contains Acetone) class 3, PG II, (Fp -20 C)pmcc

**IMDG:** UN 1993, Flammable Liquids n.o.s (contains Acetone) class 3, PG II, (Fp -20 C)pmcc

**Limited Quantities, EmS F-E, S-D. Category B**

**ADR:** UN 1993, Flammable Liquids n.o.s,(contains Acetone) class 3,PG II, (Fp -20 C)pmcc

*THIS SECTION IS PROVIDED FOR GENERAL INFORMATION ONLY. THE SHIPPING DESCRIPTION ABOVE MAY NOT REPRESENT REQUIREMENTS FOR ALL MODES OF TRANSPORTATION, PACKAGING, SHIPPING METHODS, OR LOCATIONS OUTSIDE OF THE GEOGRAPHIC BOUNDARIES OF THE U.S.A.*

Other party shipper: For more complete transportation regulatory information; please refer to the appropriate dangerous goods code of regulations, in order to complete necessary shipping documents.

### REGULATORY INFORMATION

**COMPLIANCE**  * Information about product ingredient percentages: available upon request

**U.S. FEDERAL REGULATORY INFORMATION**

SARA 302 Threshold Planning Quantity: Y

SARA 304 Reportable Quantity: Y

SARA 311 Categories:

Immediate (Acute Health effects)- Y

Delayed Chronic effects- Y

Fire Hazard- Y

Sudden Release of pressure- N

Reactivity Hazard- N

**USEPA/ TSCA Inventory:** The components of this product are listed on the USEPA/TSCA (Toxic Substances Control Act) inventory of chemicals, 15 U.S.C. 2601 et. seq.
COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA): Chemicals in this product are subject to the reporting requirements of CERCLA.

OSHA Hazard Communication Standard: This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

STATE and COMMUNITY Right-To-Know regulations (RTK): LA., CA., NJ., PA., FL., MI., IL., RI.,
Components Listed- Yes

Special, Extraordinarily, and Environmental Hazardous Substance- N.J., MA., PA.
Components Listed- Yes

CALIFORNIA PROPOSITION 65: This product DOES contain the following chemicals known to the State of California to cause cancer, birth defects, or reproductive harm: TOLUENE-developmental

CANADIAN REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations(CPR) and the MSDS contains all the information required by the Controlled Products Regulations.

This products contents are listed on the Canadian Domestic Substances List (DSL)

THE INFORMATION PROVIDED HEREIN THIS SECTION MAY NOT INCLUDE THE IMPACT OF ADDITIONAL REGULATORY REQUIREMENTS (e.g., for materials meeting the definition of hazardous waste under RCRA, hazardous substances under CERCLA, and/or marine pollutants (MARPOL) under CWA or similar federal, state, proivincial or laws regulations, within or outside the geographic boundries of the U.S.A.

OTHER INFORMATION

STATEMENTS DENOTED BELOW THIS TYPE SCRIPT ARE MEANT AS DISCLAIMER

ACKNOWLEDGEMENT UPON PURCHASE

USERS RESPONSIBILITY: THIS MSDS IS INTENDED TO MEET THE SPECIFIC REQUIREMENTS OF 29 CFR1910.1200 (U.S.A), HAZARDOUS PRODUCTS ACT AND CONTROLLED PRODUCTS REGULATIONS (CANADA), NOM 018 STPS 2000 (MEXICO), AND ANSI/400.1-200, AND SHOULD BE USED ACCORDINGLY. WHILE THE INFORMATION HAS BEEN OBTAINED FROM SOURCES BELIEVED TO BE ACCURATE AND RELIABLE, NO WARRANTY, EXPRESSED OR IMPLIED, CAN BE MADE WITH REGARD TO ITS ACCURACY, COMPLETENESS OR CORRECTNESS. THIS MSDS IS OFFERED INTO THE WORKPLACE FOR YOUR CONSIDERATION, INVESTIGATION AND CONCLUSIONS DRAWN HEREIN FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT. SINCE CONDITIONS NECESSARY FOR THE SAFE USE OF THE PRODUCT ARE NOT UNDER CONTROL OF THE MANUFACTURER, IT IS THE BUYERS, DISTRIBUTORS AND USERS LEGAL RESPONSIBILITY TO DETERMINE THE CONDITIONS NECESSARY FOR THE SAFE USE OF THE CHEMICAL PRODUCT. FINAL DETERMINATION OF SUITABILITY OF ANY MATERIAL IS THE SOLE LEGAL RESPONSIBILITY OF THE BUYERS, DISTRIBUTORS AND USERS OF THIS PRODUCT. ANY USERS, DISTRIBUTORS, HANDLERS OF THIS PRODUCT WHO ARE NOT UNDER THE DIRECT, LEGALLY DEFINED CONTROL OF THE PENRAY COMPANIES INC., ARE RESPONSIBLE FOR EVALUATING THIS INFORMATION IN LIGHT OF THE PARTICULAR WORKPLACE ENVIRONMENT, AND ARE RESPONSIBLE FOR ALL LOSSES, DAMAGES OR EXPENSES THAT RESULT WHILE THIS PRODUCT IS UNDER THEIR CONTROL. IT IS ALSO THE RESPONSIBILITY OF THE USERS, DISTRIBUTORS, HANDLERS OF THIS PRODUCT TO OBSERVE ANY AND ALL LAWS AND REGULATIONS (FEDERAL, STATE, PROVINCIAL, AND LOCAL) CONCERNING THE TRANSPORTATION, USE, HANDLING, STORAGE, AND DISPOSAL OF THIS PRODUCT.
Penray non-chlorinated ultra low VOC brake cleaner-4755

MSDS Number: 4755
Revision Date: 04/26/2009

Physicians, Toxicologists,
*A full disclosure MSDS is available upon request for valid health and environmental emergency incidents only, by contacting (847) 459-5041 during regular business hours.

Prepared by: (GAW) EHS Department, The Penray Companies Inc. Wheeling, IL. U.S.A

END OF MSDS.

END OF MSDS DOCUMENT