MATERIAL SAFETY DATA SHEET

MANUFACTURE: MISUMI Co., LTD
ADDRESS: IIDABASHI FIRST BUILDING 6F, 5-1, KOURAKU 2-CHOME, BUNKYOU-KU
TOKYO, 112-0004, JAPAN
DIVISION NAME: FACTORY SUPPLY DIVISION

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EMERGENCY ADDRESS: THE SAME ABOVE
DATA PREPARED: 2013/01/24

SECTION 1  IDENTITY
AMPC840  MISUMI • PARTS  CLEANER

SECTION 2  COMPOSITION / INFORMATION ON INGREDIENTS

Mixture Products

Ingredients:
- Petroleum solvent, Ethanol, Propellant (Propane, Butane, Carbon dioxide)

Chemical formula/Structure formula: Unidentified because of mixture products

CAS No.: Confidential

UN Classification and UN No.: Class 2.1, No. 1950

Japan Industrial Safety and Health Law: Ethanol (10~20%), Butane (Notification physical object)

PRTR Law: Not applicable

SECTION 3  HAZARDS IDENTIFICATION

Classified name: Compressed gas, Flammable gas

Hazards
- Fire Defense Law, Dangerous goods class 4, the 1st petroleum, fire danger rating II
- This product contains compressed gas inside. Heating or giving shock may cause explosion.
- It forms explosive gases to mix with air.
- Compressed liquefied gas and inflammable.

Toxicity
- Inhalation of the gas may cause dizziness, depression of central nerve.
- Repeated or prolonged exposure may cause inflammation.

Effect on the environments: No data

SECTION 4  FIRST AID MEASURES

EYE CONTACT
- Rinse a contaminated eye with plenty of clean water and seek a medical advice.

SKIN CONTACT
- Flush an affected area under running water with soap.

INHALATION
- Remove an affected person to fresh air and keep calm. Seek a medical advice if necessary.
INTAKE
Do not induce vomiting and seek a medical advice immediately. Rinse a contaminated mouth with plenty of clean water.

SECTION 5 • FIRE FIGHTING MEASURES

FIRE FIGHTING
Keep away from fire. Use the extinguishers as follows in case of early fire.

EXTINGUISH MEDIA
Carbon dioxide, Foam and Powder
Don’t use hose line water.

SECTION 6 • ACCIDENTAL RELEASE MEASURES

Eliminate all sources of ignition. Remove spill into an empty container.
Wipe it off inert materials such as clothes. Do not allow spill to enter rivers, drains and the rest.

SECTION 7 • HANDLING AND STORAGE

Conform to applicable laws and regulations. Take heed of the points as follows.

HANDLING: Keep away from sources of heat, open flames and sparks. Handle the product without static electricity. Handle it in a normal temperature. Take care not to touch it and inhale the mist.

STORAGE: Store the product in a cool and well ventilated place. Keep away from oxidizing agents, storing acids strong alkalis and halogens. Do not store the product with them.

SECTION 8 • EXPOSURE CONTROLS AND PERSONAL PROTECTON

STANDARD CONTROL CONCENTRATION: Petroleum solvent: No provisions concerning Ethanol: No provisions concerning

OCCUPATIONAL EXPOSURE LIMIT
ACGIH(TWA) Petroleum solvent: 500ppm
Ethanol: 1000ppm

ENGINEERING CONTROLS
Ensure proper airflow.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory protection: Wear a gas mask with an organic vapor canister according to situations.
Protective gloves: Wear impervious gloves in case of repeated or prolonged contact.
Protective glasses: Wear glasses if you’re exposed to spray.
Protective clothes: Wear impervious working clothes in case of prolonged handling or getting wet.

SECTION 9 • PHYSICAL / CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th></th>
<th>Petroleum solvent</th>
<th>Ethanol</th>
<th>Propane</th>
<th>Butane</th>
<th>Carbon dioxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless clear liquid</td>
<td>Colorless clear liquid</td>
<td>Colorless clear liquid</td>
<td>Colorless clear liquid</td>
<td>Colorless clear liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Solvent odor</td>
<td>Sweet odor</td>
<td>Little ethereal odor</td>
<td>Little ethereal odor</td>
<td>dorless</td>
</tr>
<tr>
<td>Boiling point</td>
<td>61–63°C</td>
<td>78.3°C</td>
<td>-42.0°C</td>
<td>-0.5°C</td>
<td>-78.5°C</td>
</tr>
<tr>
<td>Density(g/cm³)</td>
<td>0.66(15°C)</td>
<td>0.78(20°C)</td>
<td>0.58 (Liquid 20°C)</td>
<td>0.59 (Liquid 20°C)</td>
<td>0.002 (0°C)</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data</td>
<td>-141.1°C</td>
<td>-187.7°C</td>
<td>-146.8°C</td>
<td>-56.6°C</td>
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<tr>
<td>Solubility in water</td>
<td>Insoluble</td>
<td>Soluble</td>
<td>Insoluble</td>
<td>Insoluble</td>
<td>low solubility</td>
</tr>
</tbody>
</table>
**SECTION 10**  \(\text{STABILITY / REACTIVITY} b\)

<table>
<thead>
<tr>
<th></th>
<th>Petroleum solvent</th>
<th>Ethanol</th>
<th>Propane</th>
<th>Butane</th>
<th>Carbon dioxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>30°C below</td>
<td>13°C</td>
<td>-90°C</td>
<td>-72°C</td>
<td>NA</td>
</tr>
<tr>
<td>Ignition point</td>
<td>280°C</td>
<td>439°C</td>
<td>493°C</td>
<td>441°C</td>
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</tr>
<tr>
<td>Explosive limits</td>
<td>1.2~7.7 vol%</td>
<td>3.3~19%</td>
<td>2.2~9.5vol%</td>
<td>1.8~8.4vol%</td>
<td>NA</td>
</tr>
<tr>
<td>Combustibility</td>
<td>Combustible</td>
<td>Combustible</td>
<td>Combustible</td>
<td>Combustible</td>
<td>Noncombustibility</td>
</tr>
<tr>
<td>Oxidizing potential</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
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<tr>
<td>Self-reactivity</td>
<td>None</td>
<td>None</td>
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<td>Stability</td>
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<td>Stable</td>
<td>Stable</td>
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</tr>
<tr>
<td>Reactivity</td>
<td>Inactive</td>
<td>Inactive</td>
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<td>Inactive</td>
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</tbody>
</table>

Other: Avoid mixing strong oxidizing agents

**SECTION 11**  \(\text{TOXICOLOGICAL INFORMATION}\)

Irritability (skin, eye): Repeated or prolonged contact can cause irritation.

Acute Toxicity: Petroleum solvents Oral LD\(_{50}\)=28,700mg/kg above (rat) Ethanol Oral LD\(_{50}\)=5,000mg/kg above (rat)

Chronic toxicity: No data

Carcinogenicity: No data

Mutagenicity: No data

Reproductive toxicity: No data

Teratogenicity: No data

**SECTION 12**  \(\text{ECOLOGICAL INFORMATION}\)

Decomposition: No data

Accumulation: No data

Marine Toxicity: No data

**SECTION 13**  \(\text{DISPOSAL CONDITIONS}\)

Conform to all applicable laws and regulations in your country.

Waste must be disposed of in conformity to federal, state and local environment control regulations.

**SECTION 14**  \(\text{TRANSPORT INFORMATION}\)

Take notice of “HANDLING AND STORAGE” (SECTION 7) in transit.

Ascertain that there is no damage or leakage on the container. Be sure to place products without load shifting.

Conform to all applicable laws and regulations in your country.

**SECTION 15**  \(\text{REGULATORY INFORMATION}\)

Conform to all applicable laws and regulations in your country.

**SECTION 16**  \(\text{OHTR INFORMATION/REFERENCE}\)

1. ITRC” Monographs on the evaluation of the carcinogenic risk of chemicals to humans volume 33”


4. Each material’s MSDS
NOTICE TO READER

The MSDS is made on assumption that the product is in ordinary use and does not relate to use in combination with any other material or any process. This MSDS is not considered a guarantee or warranty of the product’s properties. MSDS is offered to users for reference as to dangerous and harmful chemicals. Users should take all necessary steps to fulfill the demands set out in local rules and legislations under their responsibility. Users should handle with this product according to the conditions. MSDS may be made alternation in by new knowledge.