MATERIAL SAFETY DATA SHEET

ECOSOLV® Dry Cleaning Fluid
Version 1.3
Revision Date 2011-07-28

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product information
Trade name: ECOSOLV® Dry Cleaning Fluid
Material: 1061821, 1061242, 1079001, 1058748, 1058747, 1061171
Use: Solvent
Company: Specialty Chemicals
10001 Six Pines Drive
The Woodlands, TX 77380

Emergency telephone:
Health:
866.442.9628 (North America)
1.832.813.4984 (International)

Transport:
North America: CHEMTREC 800.424.9300 or 703.527.3887
Asia: +800 CHEMCALL (+800 2436 2255) China: 0532.8388.9090
EUROPE: BIG +32.14.584545 (phone) or +32.14.583516 (telefax)
Chemcare Asia: Tel: +65 6848 9048 - Mob: +65 8382 9188 - Fax: +65 6848
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Responsible Department: Product Safety and Toxicology Group
E-mail address: MSDS@CPChem.com
Website: www.CPChem.com

2. HAZARDS IDENTIFICATION

Emergency Overview

Danger
Form: Liquid
Physical state: Liquid
Color: Colorless at room temperature
Odor: mild

OSHA Hazards: Combustible Liquid

GHS Classification:
- Flammable liquids, Category 4
- Aspiration hazard, Category 1

GHS-Labeling

Symbol(s):

Signal Word: Danger
Hazard Statements: H227: Combustible liquid

MSDS Number: 100000013944
1/10
ECOSOLV® Dry Cleaning Fluid

H304: May be fatal if swallowed and enters airways.

Precautionary Statements:

**Prevention:**
P210: Keep away from heat/sparks/open flames/hot surfaces.
- No smoking.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P331: Do NOT induce vomiting.
P370 + P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Storage:**
P403 + P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.

**Disposal:**
P501: Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:

**IARC**
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**NTP**
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**ACGIH**
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

3. COMPOSITION/INFORMATION ON INGREDIENTS

**Synonyms:**
- Isoalkanes
- Aliphatic hydrocarbon
- Isoparaffins

**Molecular formula:**
Mixture

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>C10-C13 Isoalkanes</td>
<td>68551-17-7</td>
<td>99.00 - 100.00</td>
</tr>
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</table>

4. FIRST AID MEASURES

**General advice:**
Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Symptoms of poisoning may only appear several hours later. Do not leave the victim unattended.

**If inhaled:**
Consult a physician after significant exposure. If unconscious place in recovery position and seek medical advice.

**In case of skin contact:**
If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact:  Flush eyes with water as a precaution.  Remove contact lenses.  Protect unharmed eye.  Keep eye wide open while rinsing.  If eye irritation persists, consult a specialist.

If swallowed:  Keep respiratory tract clear.  Do NOT induce vomiting.  Do not give milk or alcoholic beverages.  Never give anything by mouth to an unconscious person.  If symptoms persist, call a physician.  Take victim immediately to hospital.

5. FIRE-FIGHTING MEASURES

Flash point:  61.1 °C (142.0 °F)
Method: Tag closed cup

Autoignition temperature:  No data available

Suitable extinguishing media:  Carbon dioxide (CO2).

Unsuitable extinguishing media:  High volume water jet.

Special protective equipment for fire-fighters:  Wear self contained breathing apparatus for fire fighting if necessary.

Further information:  For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

Fire and explosion protection:  Do not spray on an open flame or any other incandescent material.  Keep away from open flames, hot surfaces and sources of ignition.

Hazardous decomposition products:  Carbon Dioxide.  Carbon oxides.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:  Use personal protective equipment.  Ensure adequate ventilation.

Environmental precautions:  Prevent product from entering drains.  Prevent further leakage or spillage if safe to do so.  If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up:  Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).  Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling

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Advice on safe handling: Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion: Do not spray on an open flame or any other incandescent material. Keep away from open flames, hot surfaces and sources of ignition.

Storage

Requirements for storage areas and containers: No smoking. Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection: In the case of vapor formation use a respirator with an approved filter.

Hand protection: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection: Eye wash bottle with pure water. Tightly fitting safety goggles.

Skin and body protection: Impervious clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures: When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Form: Liquid
Physical state: Liquid
Color: Colorless at room temperature
Odor: mild hydrocarbon

Safety data

Flash point: 61.1 °C (142.0 °F)
Method: Tag closed cup
Lower explosion limit: 1.1 %(V)
Upper explosion limit: 6.1 %(V)
## ECOSOLV® Dry Cleaning Fluid

### Version 1.3

**Revision Date 2011-07-28**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tr>
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<td>Autoignition temperature</td>
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<td>Molecular formula</td>
<td>Mixture</td>
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<td>Molecular Weight</td>
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<td>pH</td>
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<td>Pour point</td>
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<tr>
<td>Boiling point/boiling range</td>
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<td>Vapor pressure</td>
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<td></td>
<td>at 38 °C (100 °F)</td>
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<tr>
<td>Relative density</td>
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<td>Viscosity, kinematic</td>
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<tr>
<td></td>
<td>at 38 °C (100 °F)</td>
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<tr>
<td>Relative vapor density</td>
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<td></td>
<td>(Air = 1.0)</td>
</tr>
<tr>
<td>Evaporation rate</td>
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</tr>
<tr>
<td>Percent volatile</td>
<td>&gt; 99 %</td>
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</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**Possibility of hazardous reactions**

**Conditions to avoid**

- Heat, flames and sparks.

**Materials to avoid**

- May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**Other data**

- This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
- No decomposition if stored and applied as directed.

### 11. TOXICOLOGICAL INFORMATION

**Acute oral toxicity**

- **C10-C13 Isoalkanes**
  - LD50: > 5,000 mg/kg
  - Species: rat
  - Sex: male and female

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Acute inhalation toxicity
C10-C13 Isoalkanes

LC50: > 4.9 mg/l
Exposure time: 4 HR
Species: rat
Sex: male and female

Method: OECD Test Guideline 401
Information given is based on data obtained from similar substances.

Acute dermal toxicity
C10-C13 Isoalkanes

LD50: > 5,000 mg/kg
Species: rat
Sex: male and female

Method: OECD Test Guideline 402
Information given is based on data obtained from similar substances.

Skin irritation
C10-C13 Isoalkanes

No skin irritation

Information given is based on data obtained from similar substances.

Eye irritation
C10-C13 Isoalkanes

No eye irritation

Information given is based on data obtained from similar substances.

Sensitization
C10-C13 Isoalkanes

Did not cause sensitization on laboratory animals.

Information given is based on data obtained from similar substances.

Repeated dose toxicity
C10-C13 Isoalkanes

Species: rat
Application Route: Inhalation
No adverse effect has been observed in chronic toxicity tests.

ECOSOLV® Dry Cleaning Fluid
Aspiration toxicity

May be fatal if swallowed and enters airways.
Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard.

CMR effects
C10-C13 Isoalkanes

Carcinogenicity: Not classifiable as a human carcinogen.
Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Teratogenicity: Animal testing did not show any effects on fetal development.
Reproductive toxicity: Animal testing did not show any effects on fertility.

Further information:
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Concentrations substantially above the TLV value may cause narcotic effects. Solvents may degrease the skin.

### 12. ECOLOGICAL INFORMATION

#### Ecotoxicity effects

**Toxicity to fish**
- Concentration: 1,000 mg/l
- Exposure time: 96 HR
- Species: Salmo gairdneri (Rainbow trout)

**Toxicity to daphnia and other aquatic invertebrates.**
- Concentration: 1,000 mg/l
- Exposure time: 48 HR
- Species: Daphnia magna (Water flea)

**Toxicity to algae**
- C10-C13 Isoalkanes: EL50: > 1,000 mg/l
- Exposure time: 72 HR
- Species: Pseudokirchneriella subcapitata (green algae)
- static test Method: OECD Test Guideline 201
- Information given is based on data obtained from similar substances.

#### Elimination information (persistence and degradability)

**Biodegradability**
- Expected to be biodegradable

**Further information on ecology**

**Results of PBT assessment**
- C10-C13 Isoalkanes: Non-classified PBT substance, Non-classified vPvB substance
- Additional ecological information: No data available

### 13. DISPOSAL CONSIDERATIONS

The information in this MSDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

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Product: Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

Contaminated packaging: Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

14. TRANSPORT INFORMATION

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the MSDS and the bill of lading.

US DOT (United States Department of Transportation)
UN3295, HYDROCARBONS, LIQUID, N.O.S., III

IMO / IMDG (International Maritime Dangerous Goods)
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IATA (International Air Transport Association)
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

ADR (Agreement on Dangerous Goods by Road (Europe))
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

RID (Regulations concerning the International Transport of Dangerous Goods (Europe))
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

ADN (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

15. REGULATORY INFORMATION

National legislation
ECOSOLV® Dry Cleaning Fluid

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SARA 311/312 Hazards: Fire Hazard

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO – KNOW

SARA 302 Threshold Planning Quantity: SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Ingredients: SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

Ozone-Depletion Potential: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

California Prop. 65 Ingredients: This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

Europe REACH: On the inventory, or in compliance with the inventory
United States of America US.TSCA: On the inventory, or in compliance with the inventory
Canada DSL: On the inventory, or in compliance with the inventory
Australia AICS: On the inventory, or in compliance with the inventory
New Zealand NZIoC: On the inventory, or in compliance with the inventory
Japan ENCS: On the inventory, or in compliance with the inventory
Korea KECI: On the inventory, or in compliance with the inventory
Philippines PICCS: On the inventory, or in compliance with the inventory
China IECSC: On the inventory, or in compliance with the inventory

16. OTHER INFORMATION

NFPA Classification: Health Hazard: 1
Fire Hazard: 2
Reactivity Hazard: 0

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this MSDS pertains only to the product as shipped.

MSDS Number: 100000013944
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>AICS</td>
<td>Australia, Inventory of Chemical Substances</td>
</tr>
<tr>
<td>DSL</td>
<td>Canada, Domestic Substances List</td>
</tr>
<tr>
<td>NDSL</td>
<td>Canada, Non-Domestic Substances List</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration</td>
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<tr>
<td>EC50</td>
<td>Effective Concentration 50%</td>
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<tr>
<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
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<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
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<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
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<td>GHS</td>
<td>Globally Harmonized System</td>
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<td>IARC</td>
<td>International Agency for Research on Cancer</td>
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<td>IECSC</td>
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<td>Japan, Inventory of Existing and New Chemical Substances</td>
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<td>Korea, Existing Chemical Inventory</td>
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<td>Lowest Observed Adverse Effect Level</td>
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<td>NFPA</td>
<td>National Fire Protection Agency</td>
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<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
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<td>National Toxicology Program</td>
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<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
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<td>NOAEL</td>
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<td>PEL</td>
<td>Permissible Exposure Limit</td>
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<td>Philippines Inventory of Commercial Chemical Substances</td>
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<td>PRNT</td>
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<td>STEL</td>
<td>Short-term Exposure Limit</td>
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<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act.</td>
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<td>TLV</td>
<td>Threshold Limit Value</td>
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<td>TWA</td>
<td>Time Weighted Average</td>
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<tr>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
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<td>UVCB</td>
<td>Unknown or Variable Compositon, Complex Reaction Products, and Biological Materials</td>
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<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
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