SAFETY DATA SHEET

ECOSOLV® Dry Cleaning Fluid

Version 1.4

Revision Date 2014-12-15

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product information

Product Name: ECOSOLV® Dry Cleaning Fluid
Material: 1061821, 1061242, 1079001, 1058748, 1058747, 1061171

Use: Solvent

Company: Chevron Phillips Chemical Company LP
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:+86-21-22157316
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
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: SDS@CPChem.com
Website: www.CPChem.com

SECTION 2: Hazards identification

Classification of the substance or mixture
This product has been classified in accordance with the hazard communication standard 29 CFR
1910.1200; the SDS and labels contain all the information as required by the standard.

Emergency Overview

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

OSHA Hazards: Combustible Liquid, Aspiration hazard

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

Symbol(s): 

Signal Word: Danger

Hazard Statements: H227: Combustible liquid.
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/ 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.

SECTION 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>
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<tbody>
<tr>
<td>C12-C14 Isoalkanes</td>
<td>68551-19-9</td>
<td>99.9</td>
</tr>
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</table>

MSDS Number:100000013944
SECTION 4: First aid measures

General advice
Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Material may produce a serious, potentially fatal pneumonia if swallowed or vomited.

If inhaled
If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

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.

SECTION 5: Firefighting 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 firefighting 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.

SECTION 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.
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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.

SECTION 7: Handling and storage

Handling

Advice on safe handling: Avoid formation of aerosol. Do not breathe vapors/dust. 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.

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

Chevron Phillips Chemical Company LP

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Basis</th>
<th>Value</th>
<th>Control parameters</th>
<th>Note</th>
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<tr>
<td>C12-C14 Isoclanes</td>
<td>Manufacturer</td>
<td>TWA</td>
<td>1,200 mg/m³</td>
<td>RCP</td>
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</table>

US

Engineering measures

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Personal protective equipment

Respiratory protection: Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric
pressure. Air-Purifying Respirator for Organic Vapors. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

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

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear as appropriate: Flame-resistant clothing. Footwear protecting against chemicals.

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

SECTION 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)
Oxidizing properties : no
Autoignition temperature : No data available
Thermal decomposition : No data available
Molecular formula : Mixture
Molecular weight : Not applicable
pH : 7
Pour point : No data available
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Boiling point/boiling range : 189 - 208 °C (372 - 406 °F)
Vapor pressure : 1.50 MMHG
 at 38 °C (100 °F)
Relative density : 0.76, 15.6 °C(60.1 °F)
Water solubility : Negligible
Partition coefficient: n-octanol/water : No data available
Viscosity, kinematic : 1.55 cSt
 at 38 °C (100 °F)
Relative vapor density : 3
 (Air = 1.0)
Evaporation rate : 1
Percent volatile : > 99 %

SECTION 10: Stability and reactivity

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

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.
Thermal decomposition : No data available
Hazardous decomposition products : Carbon Dioxide
 Carbon oxides
Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

Acute oral toxicity

C12-C14 Isoalkanes : LD50: > 5000 milligram per kilogram
 Species: rat
 Method: OECD Test Guideline 401
 Information given is based on data obtained from similar substances.
**Acute inhalation toxicity**

C12-C14 Isoalkanes: LC50: > 5.3 milligram per liter
Exposure time: 4 h  
Species: rat  
Test atmosphere: vapor  
Method: OECD Test Guideline 403  
Information given is based on data obtained from similar substances.

**Skin irritation**

C12-C14 Isoalkanes: No skin irritation  
Information given is based on data obtained from similar substances.

**Eye irritation**

C12-C14 Isoalkanes: No eye irritation  
Information given is based on data obtained from similar substances.

**Sensitization**

C12-C14 Isoalkanes: Classification: Did not cause sensitization on laboratory animals.  
Information given is based on data obtained from similar substances.

**Repeated dose toxicity**

C12-C14 Isoalkanes:  
Species: Monkey  
Application Route: Inhalation  
Dose: 0, 654 ppm  
Exposure time: 4 wk  
Number of exposures: 6 h/d, 3 d/wk  
NOEL: > 654 ppm  
Method: OECD Test Guideline 412

Species: rat, male and female  
Sex: male and female  
Application Route: oral gavage  
Dose: 0, 25, 150, 1000 mg/kg/d  
Exposure time: 4 wk  
Number of exposures: daily  
NOEL: >= 1000 mg/kg/d  
Method: OECD Guideline 422  
Information given is based on data obtained from similar substances.

**Reproductive toxicity**

C12-C14 Isoalkanes:  
Species: rat  
Sex: male  
Application Route: oral gavage  
Dose: 0, 750, 1500, 3000 mg/kg/bw/d  
Number of exposures: daily  
Test period: 90 d  
Method: OECD Test Guideline 415  
NOAEL Parent: >= 3000 mg/kg/bw/d  
Information given is based on data obtained from similar substances.
Species: rat
Sex: female
Application Route: oral gavage
Dose: 0, 750, 1500 mg/kg/bw/d
Number of exposures: daily
Test period: 90 d
Method: OECD Test Guideline 415
NOAEL Parent: >= 1500 mg/kg/bw/d
NOAEL F1: 750 mg/kg/bw/d
Information given is based on data obtained from similar substances.

Species: rat
Sex: male and female
Application Route: inhalation (vapor)
Dose: 100, 300 ppm
Number of exposures: 6 h/d/5d/wk
Test period: 8 wk
Method: OECD Guideline 421
NOAEL Parent: >= 300 ppm
NOAEL F1: >= 300 ppm
Information given is based on data obtained from similar substances.

**Developmental Toxicity**

**C12-C14 Isoalkanes**

Species: rat
Application Route: Inhalation
Dose: 100, 300 ppm
Exposure time: GD 6-15
Number of exposures: 6 h/d
NOAEL Teratogenicity: >= 300 ppm
Information given is based on data obtained from similar substances.

Species: rat
Application Route: Inhalation
Dose: 300, 900 ppm
Exposure time: GD 6-15
Number of exposures: 6 h/d
Method: OECD Guideline 414
NOAEL Teratogenicity: >= 900 ppm
NOAEL Maternal: >= 900 ppm
Information given is based on data obtained from similar substances.

Species: rat
Application Route: oral gavage
Dose: 0, 500, 1000, 1500 mg/kg/d
Exposure time: GD 6-15
Number of exposures: Daily
Method: OECD Guideline 414
NOAEL Teratogenicity: 1,000 mg/kg
NOAEL Maternal: 500 mg/kg
Information given is based on data obtained from similar substances.
**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**

C12-C14 Isoalkanes: Carcinogenicity: Limited evidence of carcinogenicity in animal studies. Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects. In vivo tests did not show mutagenic effects. Teratogenicity: Animal testing did not show any effects on fetal development. Reproductive toxicity: No adverse effects expected.

**Further information**: Solvents may degrease the skin.

**SECTION 12: Ecological information**

**Ecotoxicity effects**

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

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

**Toxicity to algae**

C12-C14 Isoalkanes: EL50: > 1,000 mg/l
Exposure time: 72 h
Species: *Pseudokirchneriella subcapitata* (green algae)
Growth inhibition Method: OECD Test Guideline 201
Information given is based on data obtained from similar substances.

**Toxicity to fish (Chronic toxicity)**

C12-C14 Isoalkanes: NOELR: 0.316 mg/l
Exposure time: 28 d
Species: *Oncorhynchus mykiss* (rainbow trout)
Method: QSAR modeled data

**Elimination information (persistence and degradability)**

Biodegradability: Expected to be biodegradable

**Ecotoxicology Assessment**
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Results of PBT assessment
C12-C14 Isoalkanes : Non-classified PBT substance, Non-classified vPvB substance
Additional ecological information : No data available

SECTION 13: Disposal considerations

The information in this SDS 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.

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 unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 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 SDS and the bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

Testing (ASTM D4206) has shown product does not sustain combustion.

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.

MSDS Number:100000013944 10/13
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

### SECTION 15: Regulatory information

#### National legislation

<table>
<thead>
<tr>
<th>SARA 311/312 Hazards</th>
<th>Fire Hazard</th>
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<tr>
<td></td>
<td>Acute Health Hazard</td>
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<table>
<thead>
<tr>
<th>CERCLA Reportable Quantity</th>
<th>This material does not contain any components with a CERCLA RQ.</th>
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<table>
<thead>
<tr>
<th>SARA 302 Reportable Quantity</th>
<th>This material does not contain any components with a SARA 302 RQ.</th>
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<thead>
<tr>
<th>SARA 302 Threshold Planning Quantity</th>
<th>SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.</th>
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<table>
<thead>
<tr>
<th>SARA 304 Reportable Quantity</th>
<th>This material does not contain any components with a section 304 EHS RQ.</th>
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<tr>
<th>SARA 313 Ingredients</th>
<th>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.</th>
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#### Clean Air Act

<table>
<thead>
<tr>
<th>Ozone-Depletion Potential</th>
<th>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).</th>
</tr>
</thead>
</table>

MSDS Number:100000013944
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

US State Regulations

Pennsylvania Right To Know: No components are subject to the Pennsylvania Right to Know Act.

New Jersey Right To Know: No components are subject to the New Jersey Right to Know Act.

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 TSCA: On TSCA Inventory
Canada DSL: All components of this product are on the Canadian DSL.
Australia AICS: On the inventory, or in compliance with the inventory
New Zealand NZIoC: On the inventory, or in compliance with the inventory Notification number: HSR002649
Japan ENCS: On the inventory, or in compliance with the inventory
Korea KECI: On the inventory, or in compliance with the inventory
Philippines PICCS: Not in compliance with the inventory
China IECSC: On the inventory, or in compliance with the inventory

SECTION 16: Other information

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

MSDS Number: 100000013944 12/13
Further information

Legacy SDS Number : 711230

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

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

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.

<table>
<thead>
<tr>
<th>Key or legend to abbreviations and acronyms used in the safety data sheet</th>
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<tbody>
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