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

1.1 Product information

Product Name: ORFOM® SX-11 (Solvent Extraction Diluent)
Material: 1116964, 1103227, 1098695, 1036313, 1016873, 1016874

EC-No. Registration number

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No. EC-No. Index No.</th>
<th>Legal Entity Registration number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C13-C16, Isoalkanes, less than 2% aromatics</td>
<td>1116964, 1103227, 1098695, 1036313, 1016873, 1016874</td>
<td>Chevron Phillips Chemical Company LP 01-2120768767-33-0000</td>
</tr>
</tbody>
</table>

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant Identified Uses: Use in mining – industrial
Use as a fuel - industrial
Use as a fuel – professional

1.3 Details of the supplier of the safety data sheet

Company: Chevron Phillips Chemical Company LP
Mining Chemicals
10001 Six Pines Drive
The Woodlands, TX 77380

Local: Chevron Phillips Chemicals International N.V.
Airport Plaza (Stockholm Building)
Leonardo Da Vincielaan 19
1831 Diegem
Belgium

SDS Requests: (800) 852-5530
Technical Information: (832) 813-4862
Responsible Party: Product Safety Group
Email:sds@cpchem.com

SDS Number:100000067799
1.4 Emergency telephone:

Health:
866.442.9628 (North America)
1.832.813.4984 (International)

Transport:
CHEMTREC 800.424.9300 or 703.527.3887 (int'l)
Asia: CHEMWATCH (+61 9186 1132) China: 0532 8388 9090
EUROPE: BIG +32.14.584545 (phone) or +32.14.583516 (telefax)
Mexico CHEMTREC 01-800-681-9531 (24 hours)
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600
Argentina: +(54)-1159839431

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
REGULATION (EC) No 1272/2008

Aspiration hazard, Category 1
H304: May be fatal if swallowed and enters airways.

2.2 Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms:

Signal Word: Danger

Hazard Statements: H304 May be fatal if swallowed and enters airways.

Precautionary Statements:
Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331 Do NOT induce vomiting.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous ingredients which must be listed on the label:
• Hydrocarbons, C13-C16, Isoalkanes, less than 2% aromatics

Additional Labeling:
The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 1 %
The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 1 %
SECTION 3: Composition/information on ingredients

3.1 - 3.2 Substance or Mixture

<table>
<thead>
<tr>
<th>Substance or Mixture</th>
<th>Molecular formula: UVCB</th>
</tr>
</thead>
</table>

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Classification (REGULATION (EC) No 1272/2008)</th>
<th>Concentration [wt%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C13-C16, Isoalkanes, less than 2% aromatics</td>
<td></td>
<td>Asp. Tox. 1; H304</td>
<td>99 - 100</td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of 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 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. Never give anything by mouth to an unconscious person. Take victim immediately to hospital. Do not ingest. If swallowed then seek immediate medical assistance.

SECTION 5: Firefighting measures

Flash point: 100,6 °C (213,1 °F)
Method: ASTM D 93

Autoignition temperature: No data available

5.1 Extinguishing media

Unsuitable extinguishing media: High volume water jet.

5.3 Advice for firefighters

SDS Number:100000067799
Special protective equipment for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary.

Further information: Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Fire and explosion protection: Normal measures for preventive fire protection.

Hazardous decomposition products: Carbon oxides.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental precautions

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.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

Reference to other sections: For personal protection see section 8. For disposal considerations see section 13.

A quantitative risk assessment is not required for the environment.
A quantitative risk assessment is not required for human health.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling

Advice on safe handling: Do not breathe vapors/dust. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion: Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Storage

SDS Number:100000067799
Requirements for storage areas and containers:

- 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

8.2 Exposure controls

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 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. 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: 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. If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Eye protection:

- Eye wash bottle with pure water. Tightly fitting safety goggles.

Skin and body protection:

- Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate: Protective suit. Safety shoes.

Hygiene measures:

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

A quantitative risk assessment is not required for the environment.
A quantitative risk assessment is not required for human health.
## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Appearance**
- **Form**: Liquid
- **Physical state**: Liquid
- **Color**: Colorless
- **Odor**: Mild

**Safety data**
- **Flash point**: 100,6 °C (213,1 °F)
  - Method: ASTM D 93
- **Lower explosion limit**: No data available
- **Upper explosion limit**: No data available
- **Oxidizing properties**: No
- **Autoignition temperature**: No data available
- **Molecular formula**: UVCB
- **Molecular weight**: Not applicable
- **pH**: 7
- **Pour point**: No data available
- **Boiling point/boiling range**: 214,4 - 316 °C (417,9 - 601 °F)
- **Vapor pressure**: 0,36 MMHG
  - at 37,8 °C (100,0 °F)
- **Relative density**: 0,79
  - at 15,6 °C (60,1 °F)
- **Density**: 794,5 g/l
- **Water solubility**: Negligible
- **Partition coefficient: n-octanol/water**: No data available
- **Viscosity, kinematic**: 3,3 cSt
  - at 38 °C (100 °F)
- **Relative vapor density**: 1
  - (Air = 1.0)
- **Evaporation rate**: < 1
SECTION 10: Stability and reactivity

10.1 Reactivity

Reactivity : Stable under recommended storage conditions.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Hazardous reactions : Hazardous reactions: Hazardous polymerization does not occur.

Further information: No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Conditions to avoid : No data available.

10.5 Materials to avoid

Materials to avoid : May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

10.6 Hazardous decomposition products

Hazardous decomposition products : Carbon oxides

Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

Hydrocarbons, C13-C16, Isoalkanes, less than 2% aromatics : LD50: > 5,000 mg/kg

Species: Rat

Sex: male and female

Method: OECD Test Guideline 401

Information given is based on data obtained from similar substances.

Skin irritation

Hydrocarbons, C13-C16, Isoalkanes, less than 2% aromatics : Repeated exposure may cause skin dryness or cracking.

Information given is based on data obtained from similar substances. May irritate skin.

Eye irritation
# ORFOM® SX-11 (Solvent Extraction Diluent)

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Hydrocarbons, C13-C16, Isoalkanes, less than 2% aromatics** | - No eye irritation  
  Information given is based on data obtained from similar substances. |
| **Sensitization**                 | - Classification: Did not cause sensitization on laboratory animals.  
  Information given is based on data obtained from similar substances. |
| **Repeated dose toxicity**        | - Species: Rat, male and female  
  Sex: male and female  
  Application Route: oral gavage  
  Exposure time: 13 wk  
  Number of exposures: 7 d/wk  
  NOEL: > 5,000 mg/kg  
  Method: OECD Test Guideline 408  
  No significant adverse effects were reported  
  Information given is based on data obtained from similar substances.  
- Species: Rat, male and female  
  Sex: male and female  
  Application Route: Inhalation  
  Exposure time: 13 wk  
  Number of exposures: 6 h/d  
  NOEL: 30 mg/l  
  Method: OECD Test Guideline 413  
  No significant adverse effects were reported  
  Information given is based on data obtained from similar substances.  
- Species: Rat, male and female  
  Sex: male and female  
  Application Route: Dermal  
  Exposure time: 13 wk  
  Number of exposures: 5 d/wk  
  NOEL: > 495 mg/kg  
  Method: OECD Test Guideline 411  
  No significant adverse effects were reported  
  Information given is based on data obtained from similar substances. |
| **Genotoxicity in vitro**         | - Test Type: reverse mutation assay  
  Metabolic activation: with and without metabolic activation  
  Method: OECD Test Guideline 471  
  Result: negative  
  Remarks: Information given is based on data obtained from similar substances. |
Test Type: Cytogenetic assay
Test system: Chinese hamster cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Test Type: Mouse lymphoma assay
Metabolic activation: with and without metabolic activation
Method: OECD Guideline 476
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Reproductive toxicity
Hydrocarbons, C13-C16, Isoalkanes, less than 2% aromatics
Species: Rat
Sex: male and female
Application Route: oral gavage
Dose: 50, 100, 750 mg/kg
Exposure time: 70 d
Number of exposures: Daily
Method: OECD Test Guideline 416
NOAEL Parent: ≥ 750 mg/kg
NOAEL F1: ≥ 750 mg/kg
No adverse effects expected
Information given is based on data obtained from similar substances.

ORFOM® SX-11 (Solvent Extraction Diluent)
Aspiration toxicity
May be fatal if swallowed and enters airways.

CMR effects
Hydrocarbons, C13-C16, Isoalkanes, less than 2% aromatics
Carcinogenicity: Not available
Mutagenicity: In vitro tests did not show mutagenic effects
Reproductive toxicity: No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

ORFOM® SX-11 (Solvent Extraction Diluent)
Further information
Solvents may degrease the skin.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish
Hydrocarbons, C13-C16, Isoalkanes, less than 2% aromatics
LL50: > 1.000 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
static test Method: OECD Test Guideline 203
Information given is based on data obtained from similar substances.
Toxicity to daphnia and other aquatic invertebrates

Hydrocarbons, C13-C16, isoalkanes, less than 2% aromatics : EL50: > 1.000 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Immobilization Method: OECD Test Guideline 202
Information given is based on data obtained from similar substances.

Toxicity to algae

Hydrocarbons, C13-C16, isoalkanes, less than 2% aromatics : 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 bacteria

Hydrocarbons, C13-C16, isoalkanes, less than 2% aromatics : > 100 mg/l
Exposure time: 3 h
Respiration inhibition Method: OECD Test Guideline 209
Information given is based on data obtained from similar substances.

12.2 Persistence and degradability

Biodegradability

Hydrocarbons, C13-C16, isoalkanes, less than 2% aromatics : aerobic
Result: Readily biodegradable.
74 %
Testing period: 28 d
Method: OECD Test Guideline 306
Information given is based on data obtained from similar substances.

12.3 Bioaccumulative potential

Bioaccumulation

Hydrocarbons, C13-C16, isoalkanes, less than 2% aromatics : The product may be accumulated in organisms.

12.4 Mobility in soil

Mobility

Hydrocarbons, C13-C16, isoalkanes, less than 2% : immobile
12.5 Results of PBT and vPvB assessment

Results of PBT assessment
Hydrocarbons, C13-C16, Isoalkanes, less than 2% aromatics: Non-classified PBT substance, Non-classified vPvB substance

12.6 Other adverse effects

Additional ecological information: No data available

Ecotoxicology Assessment

Short-term (acute) aquatic hazard
Hydrocarbons, C13-C16, Isoalkanes, less than 2% aromatics: This product has no known ecotoxicological effects.

Long-term (chronic) aquatic hazard
Hydrocarbons, C13-C16, Isoalkanes, less than 2% aromatics: This product has no known ecotoxicological effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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 as unused product. Do not re-use empty containers.

SECTION 14: Transport information

14.1 - 14.7 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.
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National legislation


Water contaminating class (Germany) : WGK 1 slightly water endangering

15.2 Chemical Safety Assessment
Components: Alkanes, C13-16-iso- 

A Chemical Safety Assessment has been carried out for this substance. A quantitative risk assessment is not required for the environment. A quantitative risk assessment is not required for human health.

Major Accident Hazard Legislation: 96/82/EC Update: 2003 Directive 96/82/EC does not apply

Notification status:
- Europe REACH: On the inventory, or in compliance with the inventory
- United States of America (USA): On TSCA Inventory
- TSCA
- 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
- 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

SECTION 16: Other information

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

Further information

Legacy SDS Number: 98110

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 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>Acronym</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>LD50</td>
<td>Lethal Dose 50%</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
</tbody>
</table>

SDS Number: 100000067799
Full text of H-Statements referred to under sections 2 and 3.

H304  May be fatal if swallowed and enters airways.