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

Product information
Product Name : Dilute Ethylene

Company : Saudi Chevron Phillips Company
10001 Six Pines Drive
The Woodlands, TX 77380

Local : Saudi Chevron Phillips
PO Box 11221
Jubail Industrial City
Eastern Province, 31961

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

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 (+612 9186 1132) China: 0532 8388 9090
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (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

Classification of the substance or mixture
Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

GHS-Classification

: Flammable gases, Category 1
Gases under pressure, Compressed gas
Specific target organ systemic toxicity - single exposure, Category 3, Central nervous system
Dilute Ethylene

GHS-Labeling

Symbol(s) : 

Signal Word : Danger

H280: Contains gas under pressure; may explode if heated.
H336: May cause drowsiness or dizziness.

Precautionary Statements : Prevention:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P271 Use only outdoors or in a well-ventilated area.

Response:
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 In case of leakage, eliminate all ignition sources.

Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P410 + P403 Protect from sunlight. Store in a well-ventilated place.

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

SECTION 3: Composition/information on ingredients

Synonyms : Not Established

Molecular formula : C2H4

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<th>CAS-No. / EINECS-No.</th>
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SECTION 4: First aid measures

General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.

SDS Number: 100000014838 2/11
If inhaled: Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.

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. If symptoms persist, call a physician.

SECTION 5: Firefighting measures

- **Flash point**: -136 °C (-213 °F)
- **Autoignition temperature**: 490 °C (914 °F)
- **Suitable extinguishing media**: Alcohol-resistant foam. Carbon dioxide (CO2). Dry chemical.
- **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. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

SECTION 6: Accidental release measures

- **Personal precautions**: Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
- **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.

SECTION 7: Handling and storage

- **Handling**: 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. Take precautionary measures against static
discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. 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. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

Storage

Requirements for storage areas and containers: Prevent unauthorized access. 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

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<th>Parameter pengendalian</th>
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Adopsi tahun 1996

US

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Adopsi tahun 1996

A4 Not classifiable as a human carcinogen

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 in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate: Flame retardant antistatic protective clothing. Workers should wear antistatic footwear.

Hygiene measures : 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 : Compressed gas
- Physical state : Gaseous
- Color : Colorless
- Odor : Sweet Olefinic

**Safety data**
- Flash point : -136 °C (-213 °F)
- Lower explosion limit : 2.7 %(V)
- Upper explosion limit : 36 %(V)
- Oxidizing properties : no
- Autoignition temperature : 490 °C (914 °F)
- Molecular formula : C2H4
- Molecular weight : 28.06 g/mol
- pH : Not applicable
- Freezing point : -169 °C (-272 °F)
- Pour point : No data available
- Boiling point/boiling range : -103.9 °C (-155.0 °F)
- Vapor pressure : 51.67 bar at 10 °C (50 °F)
- Relative density : 0.57 at -103.9 °C (-155.0 °F)
- Density : 20.7 kg/m3
- Water solubility : Soluble in hydrocarbon solvents; insoluble in water.
Dilute Ethylene

PART 1: Identification

Partition coefficient: n-octanol/water : No data available
Viscosity, kinematic : 1.06 cSt
   at -170 °C (-274 °F)
Relative vapor density : 0.98
   (Air = 1.0)
Evaporation rate : No data available

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

SECTION 11: Toxicological information

Dilute Ethylene
Acute oral toxicity : Negligible or unlikely exposure pathways

Acute inhalation toxicity
Ethylene : LC50: > 65.4 mg/l
   Exposure time: 4 h
   Species: Rat
   Sex: male
   Test atmosphere: gas
Methane : Substance is a simple asphyxiant that may create an atmosphere deficient in oxygen. Available oxygen in the range of 19.5 percent to 23 percent by volume must be present.
Hydrogen : Substance is a simple asphyxiant that may create an atmosphere deficient in oxygen. Available oxygen in the range of 19.5 percent to 23 percent by volume must be present.

Dilute Ethylene
Acute dermal toxicity : Negligible or unlikely exposure pathways

Dilute Ethylene
Skin irritation : No skin irritation.
**Dilute Ethylene**

**Eye irritation**  
No eye irritation.

**Sensitization**  
No adverse effects expected.

**Repeated dose toxicity**

**Ethane**  
Species: Rat, Male and female  
Sex: Male and female  
Application Route: Inhalation  
Dose: 0, 1600, 5000, 16000 ppm  
Exposure time: 6 weeks  
Number of exposures: 6 hours/day, 7 days/week  
NOEL: 16000 ppm  
Test substance: yes  
Method: OECD Guideline 422

**Carcinogenicity**

**Ethylene**  
Species: Rat  
Dose: 0. 300, 1000, 3000 ppm  
Exposure time: 2 yrs  
Number of exposures: 6 h/d, 5 d/wk  
Remarks: no increase incidence of tumors

**Reproductive toxicity**

**Ethylene**  
Species: Rat  
Application Route: Inhalation  
Dose: 0. 200, 1000, 5000 ppm  
Number of exposures: 6 h/d  
NOAEL Parent: 5000 ppm  
NOAEL F1: 5000 ppm  
no abnormalities observed

**Ethane**  
Species: Rat  
Sex: male and female  
Application Route: Inhalation  
Dose: 0, 1600, 5000, 16000 ppm  
Exposure time: 6 weeks  
Number of exposures: 6 hours/day, 7 days/week  
Test period: 6 weeks  
Test substance: yes  
Method: OECD Guideline 422  
NOAEL Parent: 16000 ppm  
NOAEL F1: 16000 ppm  
no abnormalities observed

**Developmental Toxicity**

**Ethylene**  
Species: Rat  
Application Route: Inhalation  
Dose: 0. 200, 1000, 5000 ppm  
Number of exposures: 6 h/d  
NOAEL Teratogenicity: 5000 ppm  
NOAEL Maternal: 5000 ppm  
No toxicity to reproduction
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.

### SECTION 12: Ecological information

**Elimination information (persistence and degradability)**

**Bioaccumulation**

Bioaccumulation is unlikely.

**Biodegradability**

Ethane

This material is volatile and is expected to partition to air.

**Ecotoxicology Assessment**

**Results of PBT assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**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 as 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)**
UN1964, HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S., (ETHYLENE, ETHANE), 2.1

**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**
UN1964, HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S., (ETHYLENE, ETHANE), 2.1, (-136 °C)

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**
UN1964, HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S., (ETHYLENE, ETHANE), 2.1

**ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))**
UN1964, HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S., (ETHYLENE, ETHANE), 2.1, (B/D)

**RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))**
UN1964, HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S., (ETHYLENE, ETHANE), 2.1

**ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)**
UN1964, HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S., (ETHYLENE, ETHANE), 2.1

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

### SECTION 15: Regulatory information

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Dilute Ethylene

Version 1.0

Revision Date 2018-03-08

SECTION 16: Other information

NFPA Classification
: Health Hazard: 0
Fire Hazard: 4
Reactivity Hazard: 0

Further information
Legacy SDS Number : JCP00006

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.

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