

**Liquid HE® 150 Polymer**

Version 2.6

Revision Date 2025-02-20

according to GB/T 16483 and GB/T 17519

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

Product Name : Liquid HE® 150 Polymer
Material : 1122098, 1112193, 1103427, 1105173
Use : Oilfield Fluids Additive
Company : Chevron Phillips Chemical Company LP
Drilling Specialties Company LLC
10001 Six Pines Drive
The Woodlands, TX 77380

Local : See Company Address

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

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

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)

Belgium: 070 245 245 (24 hours/day, 7 days/week)

Bulgaria: +359 2 9154 233

Croatia: +3851 2348 342 (24 hours/day, 7 days/week)

Cyprus: 1401

Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402

Denmark: Danish Poison Center (Giftlinjen): +45 8212 1212

Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Finland: 0800 147 111 09 471 977 (24 hours/day)

France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week)

Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Greece: (0030) 2107793777 (24 hours/day, 7 days/week)

Hungary: +36-80-201-199 (24 hours/day, 7 days/week)

Iceland: 543 2222 (24 hours/day, 7 days/week)

Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Liquid HE® 150 Polymer

Version 2.6

Revision Date 2025-02-20

Italy: POISON CENTER MILAN – Azienda Ospedaliera Niguarda Ca` Grande Tel. +39 02 66101029; POISON CENTER ROME – Policlinico “Agostino Gemelli”, Servizio di tossicologia clinica Tel. +39 06 3054343; POISON CENTER ROME – Ospedale Pediatrico Bambino Gesù Tel. +39 06 68593726; POISON CENTER ROME – Policlinico “Umberto I” Tel. +39 06 4997 8000; POISON CENTER FOGGIA – Azienda Ospedaliera Universitaria Riuniti Tel. +39 0881 732326; POISON CENTER NAPLES – Azienda Ospedaliera “Antonio Cardarelli” Tel. +39 081 7472870; POISON CENTER FLORENCE – Azienda Ospedaliera universitaria Careggi Tel. +39 055 7947819; POISON CENTER PAVIA – IRCCS Fondazione Salvatore Maugeri Tel. +39 0382 24444; POISON CENTER BERGAMO – Azienda Ospedaliera “Papa Giovanni XXIII” Tel. 800 883 300; POISON CENTER VERONA – Azienda Ospedaliera Universitaria integrata Tel. 800 011 858;

Latvia: State Fire and Rescue Service, phone number: 112; Toxicology and Sepsis Clinic Poisoning and Drug Information Center, Hipokrāta 2, Riga, Latvia, LV-1038, phone number +371 67042473. (24 hours.)

Liechtenstein: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Lithuania: +370 (85) 2362052

Luxembourg: (+352) 8002 5500 (24 hours/day, 7 days/week)

Malta: +356 2395 2000

The Netherlands: NVIC: +31 (0)88 755 8000

Norway: 22 59 13 00 (24 hours/day, 7 days/week)

Poland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Portugal: CIAV phone number: +351 800 250 250

Romania: +40213183606

Slovakia: +421 2 5477 4166

Slovenia: Phone number: 112

Spain: National Emergency Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (24 hours/day, 7 days/week)

Sweden: 112 – ask for Poisons Information

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
GHS Classification and Labeling: Follow GB 13690, GB 15258 and GB 30000.2 to GB 30000.29 (GHS 2013)

Emergency Overview

Physical state: liquid **Color:** White **Odor:** Slight hydrocarbon

Classification

Not a hazardous substance or mixture.

Labeling

Not a hazardous substance or mixture.

SECTION 3: Composition/information on ingredients

Synonyms : Liquid Acid Gelling Agent
 Molecular formula : Mixture

Liquid HE® 150 Polymer

Version 2.6

Revision Date 2025-02-20

Chemical name	CAS-No. / EINECS-No.	Concentration [wt%]
Distillates (petroleum), hydrotreated light	64742-47-8	0 - 60
Polymerization bottoms	64741-71-5	0 - 60

SECTION 4: First aid measures

- General advice : No hazards which require special first aid measures.
- If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
- In case of eye contact : Remove contact lenses. Protect unharmed eye. 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 : $\geq 96^{\circ}\text{C}$ ($\geq 204^{\circ}\text{F}$)
Method: closed cup
- Autoignition temperature : 232°C (450°F)
- 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.

SECTION 6: Accidental release measures

- Methods for cleaning up : Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage**Handling**

- Advice on safe handling : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
- Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Storage

Liquid HE® 150 Polymer

Version 2.6

Revision Date 2025-02-20

- Requirements for storage areas and containers : Electrical installations / working materials must comply with the technological safety standards.
- Advice on common storage : No materials to be especially mentioned.
- Use : Oilfield Fluids Additive

SECTION 8: Exposure controls/personal protection

Not applicable

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 : If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure, a supplied-air NIOSH approved respirator may be appropriate. A positive pressure, air-supplying respirator may be appropriate if there is potential for uncontrolled release, aerosolization, 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 in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
- Hygiene measures : General industrial hygiene practice.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties****Appearance**

- Physical state : liquid
 Color : White
 Odor : Slight hydrocarbon

Safety data

SDS Number:100000014589

4/13

Liquid HE® 150 Polymer

Version 2.6

Revision Date 2025-02-20

Flash point	: $\geq 96^{\circ}\text{C}$ ($\geq 204^{\circ}\text{F}$) Method: closed cup
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Oxidizing properties	: No
Autoignition temperature	: 232°C (450°F)
Molecular formula	: Mixture
Molecular weight	: Not applicable
pH	: 7
Freezing point	: No data available
Boiling point/boiling range	: $224\text{-}275^{\circ}\text{C}$ ($435\text{-}527^{\circ}\text{F}$)
Vapor pressure	: 0.01 PSI at 25°C (77°F)
Relative density	: 0.96 at 15.6°C (60.1°F)
Density	: 958.6 g/l
Water solubility	: dispersible
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: 79007 cSt
Relative vapor density	: 3 (Air = 1.0)
Evaporation rate	: < 1

SECTION 10: Stability and reactivity

Reactivity	: Stable at normal ambient temperature and pressure.
Chemical stability	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Possibility of hazardous reactions	
Hazardous reactions	: Further information: Stable under recommended storage

Liquid HE® 150 Polymer

Version 2.6

Revision Date 2025-02-20

conditions., No hazards to be specially mentioned.

Conditions to avoid : No data available.**Other data** : No decomposition if stored and applied as directed.**SECTION 11: Toxicological information****Acute oral toxicity**

Distillates (petroleum), hydrotreated light : LD50: > 15,000 mg/kg
 Species: Rat
 Sex: male and female
 Method: OECD Test Guideline 423
 Information given is based on data obtained from similar substances.

Polymerization bottoms LD50: > 5,000 mg/kg
 Species: Rat

Acute inhalation toxicity

Distillates (petroleum), hydrotreated light : LC50: > 4.9 mg/l
 Exposure time: 4 h
 Species: Rat
 Sex: male and female
 Test atmosphere: vapor
 Method: OECD Test Guideline 403
 Information given is based on data obtained from similar substances.

Acute dermal toxicity

Distillates (petroleum), hydrotreated light : 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.

Polymerization bottoms LD50: > 2,000 mg/kg
 Species: Rat

Skin irritation

Distillates (petroleum), hydrotreated light : No skin irritation
 Information given is based on data obtained from similar substances.

Polymerization bottoms May irritate skin. largely based on animal evidence.

Eye irritation

Distillates (petroleum), hydrotreated light : No eye irritation
 Information given is based on data obtained from similar substances.

Polymerization bottoms No eye irritation. largely based on animal evidence.

Liquid HE® 150 Polymer

Version 2.6

Revision Date 2025-02-20

Sensitization

Distillates (petroleum), hydrotreated light : Does not cause skin sensitization. Information given is based on data obtained from similar substances.

Polymerization bottoms Did not cause sensitization on laboratory animals.

Repeated dose toxicity

Distillates (petroleum), hydrotreated light : Species: Rat, male and female
Sex: male and female
Application Route: oral gavage
Dose: 25, 150, 1000 mg/kg/d
NOEL: > 1,000 mg/kg
Method: OECD Test Guideline 422
Information given is based on data obtained from similar substances.

Species: Rat, male and female
Sex: male and female
Application Route: Inhalation
Dose: 2600, 5200, 10400 mg/m³
Exposure time: 13 wk
Number of exposures: 6 h/d, 5 d/wk
NOEL: > 10400 mg/m³
Method: OECD Test Guideline 413
Information given is based on data obtained from similar substances.

Polymerization bottoms No adverse effects expected

Genotoxicity in vitro

Distillates (petroleum), hydrotreated light : Test Type: Ames test
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: Chromosome aberration test in vitro
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: In vitro mammalian cell gene mutation test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Polymerization bottoms Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Liquid HE® 150 Polymer

Version 2.6

Revision Date 2025-02-20

Genotoxicity in vivo

Distillates (petroleum), hydrotreated light : Test Type: Micronucleus test
Species: Mouse
Method: OECD Test Guideline 474
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Test Type: Dominant lethal assay
Method: OECD Test Guideline 478
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Polymerization bottoms Test Type: In vivo micronucleus test
Species: Mouse
Method: OECD Test Guideline 474
Result: negative

Reproductive toxicity

Distillates (petroleum), hydrotreated light : No adverse effects expected
Information given is based on data obtained from similar substances.

Polymerization bottoms No adverse effects expected

Developmental Toxicity

Distillates (petroleum), hydrotreated light : No adverse effects expected
Information given is based on data obtained from similar substances.

**Liquid HE® 150 Polymer
Aspiration toxicity**

: No aspiration toxicity classification.

**Liquid HE® 150 Polymer
Further information**

: Solvents may degrease the skin.

SECTION 12: Ecological information**Toxicity to fish**

Distillates (petroleum), hydrotreated light : LL50: > 88,444 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
static test Information given is based on data obtained from similar substances.

Polymerization bottoms LL50: > 1,000 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates

Liquid HE® 150 Polymer

Version 2.6

Revision Date 2025-02-20

Distillates (petroleum), hydrotreated light : EL50: > 1,000 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 static test Method: OECD Test Guideline 202
 Information given is based on data obtained from similar substances.

Polymerization bottoms EL50: > 100 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 static test Method: OECD Test Guideline 202

Toxicity to algae

Distillates (petroleum), hydrotreated light : EL50: > 1,000 mg/l
 Exposure time: 72 h
 Species: Pseudokirchneriella subcapitata (algae)
 Growth inhibition Method: OECD Test Guideline 201
 Information given is based on data obtained from similar substances.

Polymerization bottoms EL50: > 1,000 mg/l
 Exposure time: 96 h
 Species: Selenastrum capricornutum (green algae)

Toxicity to fish (Chronic toxicity)

Distillates (petroleum), hydrotreated light : NOELR: > 1,000 mg/l
 Exposure time: 28 d
 Method: QSAR modeled data

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

Distillates (petroleum), hydrotreated light : NOELR: 1 mg/l
 Exposure time: 21 d
 Species: Daphnia magna (Water flea)
 semi-static test
 Method: OECD Test Guideline 211
 Information given is based on data obtained from similar substances.

Polymerization bottoms : NOEC: 5 mg/l
 Exposure time: 21 d
 Species: Daphnia magna (Water flea)
 static renewal
 Method: OECD Test Guideline 211

Biodegradability

Distillates (petroleum), hydrotreated light : aerobic
 Result: Readily biodegradable.
 68 %
 Testing period: 28 d
 Information given is based on data obtained from similar substances.

Liquid HE® 150 Polymer

Version 2.6

Revision Date 2025-02-20

Polymerization bottoms : 0 %
 Testing period: 28 d
 This material is not expected to be readily biodegradable.

Bioaccumulation

Distillates (petroleum),
 hydrotreated light : This material is not expected to bioaccumulate.
 Polymerization bottoms : No data available

Mobility

Distillates (petroleum),
 hydrotreated light : No data available
 Polymerization bottoms : No data available

Results of PBT assessment

Polymerization bottoms : Non-classified PBT substance, Non-classified vPvB substance

Additional ecological
 information : This material is not expected to be harmful to aquatic
 organisms.

Ecotoxicology Assessment**Short-term (acute) aquatic hazard**

Distillates (petroleum),
 hydrotreated light : This material is not expected to be harmful to aquatic
 organisms.

Polymerization bottoms : This material is not expected to be harmful to aquatic
 organisms.

Long-term (chronic) aquatic hazard

Distillates (petroleum),
 hydrotreated light : This material is not expected to be harmful to aquatic
 organisms.

Polymerization bottoms : This material is not expected to be harmful to aquatic
 organisms.

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.

Contaminated packaging : Empty containers should be taken to an approved waste
 handling site for recycling or disposal.

Liquid HE® 150 Polymer

Version 2.6

Revision Date 2025-02-20

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.

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.

Maritime transport in bulk according to IMO instruments

SECTION 15: Regulatory information**Notification status**

Europe REACH	:	Not in compliance with the inventory
Switzerland CH INV	:	Not in compliance with the inventory
United States of America (USA) TSCA	:	All substances listed as active on the TSCA inventory
Canada DSL	:	All components of this product are on the Canadian

Liquid HE® 150 Polymer

Version 2.6

Revision Date 2025-02-20

	DSL	
Australia AIIC	:	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	:	Not in compliance with the inventory
Philippines PICCS	:	Not in compliance with the inventory
Taiwan TCSI	:	On the inventory, or in compliance with the inventory
China IECSC	:	On the inventory, or in compliance with the inventory

SECTION 16: Other information**Further information**

Legacy SDS Number : CPC00496

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

ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AIIC	Australian Inventory of Industrial Chemicals	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act

Liquid HE® 150 Polymer

Version 2.6

Revision Date 2025-02-20

KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%	ATE	Acute toxicity estimate