

Orfom® D8 Depressant

Version 2.10

Revision Date 2021-12-15

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

Product Name : Orfom® D8 Depressant
 Material : 1123679, 1119972, 1119971, 1116157, 1108014, 1106095,
 1106087, 1095798, 1016855, 1016856

Use : Mineral Processing Aide

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

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**

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.

Classification

: Flammable liquids, Category 4
 Corrosive to Metals, Category 1
 Skin corrosion, Category 1
 Serious eye damage, Category 1

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Labeling

Symbol(s)

:



Signal Word

:

Danger

Hazard Statements

:

H227: Combustible liquid.
 H290: May be corrosive to metals.
 H314: Causes severe skin burns and eye damage.
 H318: Causes serious eye damage.

Precautionary Statements

:

Prevention:

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.

P234 Keep only in original container.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P390 Absorb spillage to prevent material damage.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P406 Store in corrosive resistant stainless steel container with a resistant inner liner.

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.

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SECTION 3: Composition/information on ingredients

Molecular formula : Mixture

Component	CAS-No.	Weight %
Disodium Carboxymethyltrithiocarbonate	86932-91-4	35 - 45
Sodium Hydroxide	1310-73-2	5

SECTION 4: First aid measures

- General advice : Move out of dangerous area. Consult a physician. 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 : Move to fresh air. If symptoms persist, call a physician.
- In case of skin contact : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. If on skin, rinse well with water. If on clothes, remove clothes.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- If swallowed : Clean mouth with water and drink afterwards plenty of water. Keep respiratory tract clear. Never give anything by mouth to an unconscious person. Take victim immediately to hospital.

SECTION 5: Firefighting measures

- Flash point : >93°C (>199°F)
- Autoignition temperature : >400°C (>752°F)
- Suitable extinguishing media : Carbon dioxide (CO₂).
- Unsuitable extinguishing media : High volume water jet.
- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

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- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. 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 a naked flame or any incandescent material. Keep away from open flames, hot surfaces and sources of ignition.
- Hazardous decomposition products : Hydrogen Sulfide. Carbon Disulfide.

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.
- 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.
- Additional advice : No conditions to be specially mentioned.

SECTION 7: Handling and storage**Handling**

- Advice on safe handling : Avoid formation of aerosol. Avoid direct contact with acids. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. 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. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.
- Advice on protection against fire and explosion : Do not spray on a naked flame or any 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. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working

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Use : materials must comply with the technological safety standards.
: Mineral Processing Aide

SECTION 8: Exposure controls/personal protection**Ingredients with workplace control parameters****US**

Components	Basis	Value	Control parameters	Note
Sodium Hydroxide	ACGIH	C	2 mg/m3	
	OSHA Z-1	TWA	2 mg/m3	
	OSHA Z-1-A	C	2 mg/m3	
Hydrogen Sulfide	ACGIH	TWA	1 ppm,	
	ACGIH	STEL	5 ppm,	
	OSHA Z-2	CEIL	20 ppm,	
	OSHA Z-2	Peak	50 ppm,	
	OSHA Z-1-A	TWA	10 ppm, 14 mg/m3	
Carbon disulfide	OSHA Z-1-A	STEL	15 ppm, 21 mg/m3	
	ACGIH	TWA	1 ppm,	A4, Skin,
	OSHA Z-2	TWA	20 ppm,	
	OSHA Z-2	CEIL	30 ppm,	
	OSHA Z-2	Peak	100 ppm,	
	OSHA Z-1-A	TWA	4 ppm, 12 mg/m3	X,
	OSHA Z-1-A	STEL	12 ppm, 36 mg/m3	X,

A4 Not classifiable as a human carcinogen
Skin Danger of cutaneous absorption
X Skin notation

Immediately Dangerous to Life or Health Concentrations (IDLH)

Substance name	CAS-No.	Control parameters	Update
Sodium Hydroxide	1310-73-2	Immediately Dangerous to Life or Health Concentration Value 10 mg/m ³	1995-03-01

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 Dusts and Mists / P100. Use a positive pressure, air-supplying respirator 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

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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. Wear face-shield and protective suit for abnormal processing problems.
- Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear as appropriate: Complete head face and neck protection. Flame-resistant clothing. Rubber apron. 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 : clear, orange-red
- Odor : Mild

Safety data

- Flash point : >93°C (>199°F)
- Lower explosion limit : No data available
- Upper explosion limit : No data available
- Autoignition temperature : >400°C (>752°F)
- Molecular formula : Mixture
- Molecular weight : Not applicable
- pH : 12.52
- Boiling point/boiling range : 106.4°C (223.5°F)
- Vapor pressure :
- Relative density : 1.3106
at 16 °C (61 °F)
- Density : 1.3478 g/cm³
at 16°C (60°F)
- Water solubility : 260,000 MG/L
- Partition coefficient: n-octanol/water : Pow: 398
log Pow: 2.6
- Viscosity, kinematic : 5.44 cSt
at 21.1°C (70.0°F)

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Relative vapor density	: 1 (Air = 1.0)
Evaporation rate	: 1
Percent volatile	: 60 %
Oxidizing potential	: Note: The substance or mixture is not classified as oxidizing.

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 : Incompatible with strong acids and oxidizing agents. Direct contact with acids could release H₂S and CS₂..

Hazardous decomposition products : Hydrogen Sulfide
Carbon Disulfide

SECTION 11: Toxicological information

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Acute oral toxicity** : No data available

**Orfom® D8 Depressant
Acute inhalation toxicity** : No data available

**Orfom® D8 Depressant
Acute dermal toxicity** : No data available

**Orfom® D8 Depressant
Skin irritation** : Extremely corrosive and destructive to tissue.

**Orfom® D8 Depressant
Eye irritation** : May cause irreversible eye damage.

**Orfom® D8 Depressant
Sensitization** : No data available.

**Orfom® D8 Depressant
Repeated dose toxicity** : This information is not available.

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Genotoxicity in vitro** : Test Type: Ames test
Test system: Salmonella typhimurium

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Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 471
 Result: negative

**Orfom® D8 Depressant
 Genotoxicity in vivo** : Remarks: No data available

**Orfom® D8 Depressant
 Reproductive toxicity** : This information is not available.

**Orfom® D8 Depressant
 Developmental Toxicity** : This information is not available.

**Orfom® D8 Depressant
 Aspiration toxicity** : May be harmful if swallowed and enters airways.

**Orfom® D8 Depressant
 Further information** : No data available.

SECTION 12: Ecological information**Ecotoxicity effects**

Toxicity to fish : LC50: 64.69 mg/l
 Exposure time: 96 h
 Species: Danio rerio (Zebra Fish)
 semi-static test Method: OECD Test Guideline 203

**Toxicity to daphnia and
 other aquatic invertebrates** : EC50: 35.46 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 semi-static test Method: OECD Test Guideline 202

Biodegradability : No data available

Elimination information (persistence and degradability)

Mobility : No data available

Additional ecological
 information : No data available

Ecotoxicology Assessment**SECTION 13: Disposal considerations**

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

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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. Do not clean with acids. Never neutralize with the following products: acids. 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)

UN3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (DISODIUM CARBOXYMETHYLTRITHIOCARBONATE, SODIUM HYDROXIDE), 8, II, RQ (SODIUM HYDROXIDE)

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (DISODIUM CARBOXYMETHYLTRITHIOCARBONATE, SODIUM HYDROXIDE), 8, II, (>93°C)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (DISODIUM CARBOXYMETHYLTRITHIOCARBONATE, SODIUM HYDROXIDE), 8, II

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))

UN3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (DISODIUM CARBOXYMETHYLTRITHIOCARBONATE, SODIUM HYDROXIDE), 8, II, (E)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))

UN3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (DISODIUM CARBOXYMETHYLTRITHIOCARBONATE, SODIUM HYDROXIDE), 8, II

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)

UN3267, CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (DISODIUM CARBOXYMETHYLTRITHIOCARBONATE, SODIUM HYDROXIDE), 8, II

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Maritime transport in bulk according to IMO instruments**SECTION 15: Regulatory information****National legislation**

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Corrosive to Metals
Skin corrosion or irritation
Serious eye damage or eye irritation

CERCLA Reportable Quantity : Calculated RQ exceeds reasonably attainable upper limit.
Sodium Hydroxide

SARA 302 Reportable Quantity : This material does not contain any components with a SARA 302 RQ.

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

SARA 304 Reportable Quantity : This material does not contain any components with a section 304 EHS RQ.

SARA 313 Components : 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).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (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).

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

US State Regulations

Pennsylvania Right To Know

: Sodium Hydroxide - 1310-73-2

New Jersey Right To Know

: Sodium Hydroxide - 1310-73-2

California Prop. 65
Components

: 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

: A substance or substances in this product is not registered or notified to be registered. Importation or manufacture of this product is still permitted provided that it does not exceed the REACH minimum threshold quantity of the non-regulated substances.

Switzerland CH INV

: On the inventory, or in compliance with the inventory

United States of America (USA)

: On or in compliance with the active portion of the

TSCA

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

: Not in compliance with the inventory

Japan ENCS

: Not in compliance with the inventory

Korea KECI

: A substance(s) in this product was not registered, notified to be registered, or exempted from registration by CPChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance or the exported amount does not exceed the minimum threshold quantity of the non-registered substance(s).

Philippines PICCS

: Not in compliance with the inventory

China IECSC

: Not in compliance with the inventory

Taiwan TCSI

: Not in compliance with the inventory

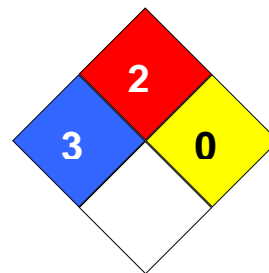
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SECTION 16: Other information

NFPA Classification : Health Hazard: 3
Fire Hazard: 2
Reactivity Hazard: 0

**Further information**

Legacy SDS Number : 59700

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%
AICS	Australia, Inventory of Chemical Substances	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	TSCA	Toxic Substance Control Act

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	New Chemical Substances		
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%		