

SAFETY DATA SHEET

1. Identification

Product identifier Sulfur

Other means of identification

SDS number 22

Synonyms Brimstone * Sulphur

Recommended use Fuel.

Recommended restrictions None known.

Manufacturer / Importer / Supplier / Distributor information

Company name Sinclair Oil Corporation

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Salt Lake City, UT
US

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2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Skin corrosion/irritation Category 2

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Not available.

Precautionary statement

Prevention Wear protective gloves. Wash thoroughly after handling.

Response If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage Store away from incompatible materials.

Disposal Dispose of in accordance with local regulations.

Hazard(s) not otherwise classified (HNOC) Not classified.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Sulfur		7704-34-9	100

4. First-aid measures

Inhalation If symptomatic, move to fresh air. Get medical attention if symptoms persist.

Skin contact Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse.
If burned by contact with hot material, cool molten material adhering to skin as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn.

Eye contact	Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist. If molten material contacts the eye, immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.
Ingestion	Seek medical advice.
Most important symptoms/effects, acute and delayed	Causes skin irritation. Molten material will produce thermal burns.
Indication of immediate medical attention and special treatment needed	Burns should be treated as thermal burns. Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Water fog. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	Contact with molten material may cause thermal burns.
Special protective equipment and precautions for firefighters	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with full face-piece operated in positive pressure mode. Use approved gas detectors in confined spaces.
Fire-fighting equipment/instructions	Move containers from fire area if you can do it without risk. Use water spray to keep fire-exposed containers cool.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment (See Section 8).
Methods and materials for containment and cleaning up	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. Collect spillage. Should not be released into the environment. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Heated material: Let it solidify.
Environmental precautions	Stop leak if possible without any risk. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment (See Section 8).
Conditions for safe storage, including any incompatibilities	Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

ACGIH

Material	Type	Value	Form
Sulfur (CAS 7704-34-9)	TWA	0.5 mg/m ³	(total dust)

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Provide adequate general and local exhaust ventilation. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
Individual protection measures, such as personal protective equipment	
Eye/face protection	Safety glasses. Wear a face shield when working with molten material.
Skin protection	
Hand protection	Wear protective gloves. When material is heated, wear gloves to protect against thermal burns.
Other	Wear chemical-resistant, impervious gloves. Full body suit and boots are recommended when handling large volumes or in emergency situations. Heat resistant/insulated gloves and clothing are recommended when working with molten material.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever work place conditions warrant a respirator's use. Seek advice from local supervisor.

Thermal hazards When material is heated, wear gloves to protect against thermal burns.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance Yellow solid.

Physical state Solid.

Form Molten solid.

Color Yellow. Orange. Red. Black.

Odor Sweet to mercaptan (natural gas).

Odor threshold Not available.

pH Not available.

Melting point/freezing point 235 °F (112.78 °C)

Initial boiling point and boiling range 832 °F (444.44 °C)

Flash point 405.0 °F (207.2 °C) Cleveland Open Cup

Evaporation rate Not applicable.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not applicable.

Vapor density Not applicable.

Relative density Not available.

Solubility(ies) Insoluble.

Partition coefficient (n-octanol/water) No data available.

Auto-ignition temperature 450 °F (232.22 °C)

Decomposition temperature Not available.

Viscosity Not available.

10. Stability and reactivity

Reactivity The product is stable and non reactive under normal conditions of use, storage and transport.

Chemical stability Stable under normal temperature conditions and recommended use.

Possibility of hazardous reactions Hazardous polymerization does not occur.

Conditions to avoid Heat. Ignition sources. Keep away from combustible material.

Incompatible materials Strong oxidizing agents.

Hazardous decomposition products No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion Molten material will produce thermal burns.

Inhalation May cause respiratory tract irritation.

Skin contact	Causes skin irritation. Molten material will produce thermal burns.
Eye contact	Molten material will produce thermal burns.
Symptoms related to the physical, chemical and toxicological characteristics	Causes skin irritation. Contact with molten material may cause thermal burns.

Information on toxicological effects

Acute toxicity	Molten material will produce thermal burns.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Not classified.
Respiratory sensitization	Not classified.
Skin sensitization	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not applicable.

12. Ecological information

Ecotoxicity	Not expected to be harmful to aquatic organisms.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	Not available.
Other adverse effects	Not available.

13. Disposal considerations

Disposal instructions	Dispose in accordance with all applicable regulations. This material and its container must be disposed of as hazardous waste. Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.
Local disposal regulations	Dispose of in accordance with local regulations.
Hazardous waste code	Not assigned.
Waste from residues / unused products	Dispose in accordance with all applicable regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.

14. Transport information

DOT

UN number	UN2448
UN proper shipping name	Sulfur, molten
Transport hazard class(es)	4.1
Subsidiary class(es)	-
Packing group	III
Special precautions for user	Not available.
Special provisions	30, IB1, T1, TP3
Packaging exceptions	None
Packaging non bulk	213
Packaging bulk	247

IATA

UN number	UN2448
UN proper shipping name	Sulphur, molten
Transport hazard class(es)	4.1
Subsidiary class(es)	-
Packaging group	Not available.
Environmental hazards	No
Labels required	Not available.

ERG Code 3L
Special precautions for user Not available.

IMDG

UN number UN2448
UN proper shipping name SULPHUR, MOLTEN
Transport hazard class(es) 4.1
Subsidiary class(es) -
Packaging group III
Environmental hazards
Marine pollutant No
Labels required Not available.
EmS F-A, S-H
Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

15. Regulatory information

US federal regulations This product is hazardous according to OSHA 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical Yes

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Sulfur (CAS 7704-34-9)

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Sulfur (CAS 7704-34-9)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

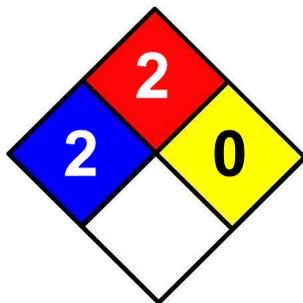
*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 22-July-2013
Revision date -
Version # 01

NFPA Ratings



Disclaimer

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.