

HF® 1000 Solvent

Material Safety Data Sheet

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Trade name HF® 1000 Solvent
Synonyms Paraffin/Olefin/Oxygenate Mixture
Use Industrial use, Oilfield Drilling
Company Sasol North America Inc.
Address 900 Threadneedle, Ste 100, Houston, TX 77079
Telephone CHEMTREC North America Transportation Emergency (24-hr) (800) 424-9300
CHEMTREC World Wide (703) 527-3887
Other Emergencies (24-hr) (337) 494-5142
MSDS and Product Information (8:00am-4:30pm CST) (337) 494-5080
Health and Safety Information (7:30am-4:00pm CST) (281) 588-3492
E-mail address info@us.sasol.com

SECTION 2 HAZARDS IDENTIFICATION

Emergency Overview

Appearance yellow oily liquid

Odour Waxy odor

Precautions **CAUTION!** COMBUSTIBLE LIQUID AND VAPOR. MAY CAUSE SKIN IRRITATION. MAY CAUSE DEVELOPMENTAL EFFECTS BASED ON ANIMAL DATA. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Keep away from heat and flame.

Environmental precautions Controlled release to the environment is not expected to have a significant impact. Readily biodegradable.

Potential Health Effects

Eyes Exposure is not expected to cause significant irritation.

Skin Prolonged skin contact may cause skin irritation and/or dermatitis. Some evidence of adverse effects on development, based on animal experiments.

Inhalation Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed. Some evidence of adverse effects on development, based on animal experiments.

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Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Some evidence of adverse effects on development, based on animal experiments.

(See Section 11 for Toxicological Information)

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

<u>Components</u>	<u>CAS-No.</u>	<u>Weight percent</u>
Alcohols, C2-C33 manuf. of, by products from overheads		100

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

SECTION 4 FIRST AID MEASURES

- Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. When symptoms persist or in all cases of doubt seek medical advice. Wash contaminated clothing before re-use.
- Inhalation** Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. In case of shortness of breath, give oxygen. Call a physician immediately.
- Ingestion** If swallowed, call a poison control centre or doctor immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

SECTION 5 FIREFIGHTING MEASURES**FLAMMABLE PROPERTIES**

Flash point > 87.2 °C > 189 °F TCC

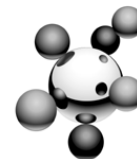
Auto-ignition temperature 248 °C 478 °F

Flammable limits in air % by volume **Lower explosion limit:** no data available
Upper explosion limit: no data available

Fire/explosion NFPA Class IIIA combustible liquid.

Suitable extinguishing media Water spray, Foam, Dry chemical, Carbon dioxide (CO₂)

Protective equipment and precautions for firefighters Wear self-contained breathing apparatus and protective suit.



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Further information Keep containers and surroundings cool with water spray.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and 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).

SECTION 7 HANDLING AND STORAGE

Safe handling advice Ensure all equipment is electrically grounded before beginning transfer operations.

Storage/Transport temperature Ambient

Storage/Transport pressure Ambient

Load/Unload temperature Above product melting point.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES

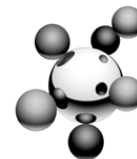
Air contaminant levels should be controlled below the PEL or TLV for this product (see Exposure Guidelines).

PERSONAL PROTECTIVE EQUIPMENT

Eyes Wear as appropriate: Goggles, Face-shield

Skin Wear suitable protective clothing, gloves and eye/face protection. Type: Impervious gloves

Inhalation Respiratory protection is normally not required except in emergencies or when conditions cause excessive airborne levels of mists or vapors. Use NIOSH approved respiratory protection.



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EXPOSURE GUIDELINES

<u>Components</u>	<u>Exposure limit(s)</u>
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	Contains no substances with occupational exposure limit values. The following Sasol internal standard would apply: 100 ppm (525 mg/m ³) for 8-hour TWA (Exposure limits for Petroleum Distillate - Stoddard Solvent)
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PEL= Permissible Exposure Limits
TLV= Threshold Limit Value
EL= Excursion Limit

TWA= Time Weighted Average (8 hr.)
STEL= Short Term Exposure Limit (15 min.)
WEEL= Workplace Environmental Exposure Level

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance oily liquid

Colour yellow

Odour Waxy odor

Form liquid

Boiling point/boiling range 218 °C 425 °F

Vapour pressure 0.35 mm Hg @ 20 °C

Vapour density ca. 7

Water solubility negligible

Viscosity 2.2 cSt @ 40 °C

Melting point/range -6 - 9 °C 21 - 48 °F -14 °C 6.8 °F Pour point

Density 0.664 g/cm³ @ 15.5 °C

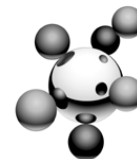
Specific gravity 0.798 @ 20 °C

SECTION 10 STABILITY AND REACTIVITY

Conditions to avoid Keep away from heat and sources of ignition.

Hazardous decomposition products Hazardous gases and vapors produced in fire are oxides of carbon.

Materials to avoid Oxidizing agents



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Hazardous polymerisation None.

SECTION 11 TOXICOLOGICAL INFORMATION

Eyes Primary irritation (rabbit): 5.3 (Maximum score is 110.) (conclusion by analogy).

Skin Primary irritation (rabbit): 3.7 (Maximum score is 8.0.) (conclusion by analogy).

Ingestion Acute oral toxicity LD50 (rat): > 2,000 mg/kg OECD guideline 425
Test substance HF® 1000

Repeated dose toxicity

In an oral combined repeat-dose/reproductive and developmental toxicity study (OECD 422) in rats, HF® 1000 showed a potential to cause adverse effects on the developing fetus (fetotoxicity) at a high dose. This effect occurred at 1000 mg/Kg; the highest dose tested. No other adverse developmental effects were observed and the NOEL for fetotoxicity was 500 mg/kg/day. Additionally, increased kidney weights in adult males at 500 and 1000 mg/kg/day, with associated basophilic tubules and hyaline droplets were observed. The hyaline droplets that form in the male rat renal tubules following the administration of hydrocarbons such as HF® 1000 contain alpha-2microglobulin, and are widely accepted to not occur in man, as little or none of this protein is present in man. The relevant parental NOAEL for the study would be 1000 mg/kg/day. It should be noted that the oral route is an unlikely route of exposure to this substance.

CARCINOGENICITY

Contains no ingredient listed as a carcinogen

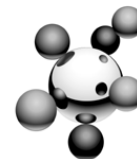
SECTION 12 ECOLOGICAL INFORMATION

Aquatic toxicity Controlled release to the environment is not expected to have a significant impact.

Toxicity to fish LL50 (Pimephales promelas (fathead minnow)) 96 hours: 48.7%; The product has low solubility in the test medium. An aqueous dispersion was tested.

Toxicity to aquatic invertebrates LL50 (Daphnia pulex (Water flea)) 48 hours: > 100%; The product has low solubility in the test medium. An aqueous dispersion was tested.

Biodegradation Readily biodegradable.

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SECTION 13 DISPOSAL CONSIDERATIONS

Waste Code Any unused product or empty containers may be disposed of as non-hazardous in accordance with state and federal requirements. Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures, contamination, and spillage may change the classification. If the resulting material is determined to be hazardous, please dispose in accordance with state and federal (40 CFR 262) hazardous waste regulations.

Disposal methods Dispose of only in accordance with local, state, and federal regulations.

Empty containers. Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

SECTION 14 TRANSPORT INFORMATION

DOT Not regulated. Product does not sustain combustion (49 CFR 173.120(b)(3)).

IATA not regulated

IMDG not regulated

SECTION 15 REGULATORY INFORMATION**U.S. FEDERAL REGULATIONS****OSHA Hazards**

Combustible liquid

TSCA Inventory Listing**Components****CAS-No.**

Alcohols, C2-C33 manuf. of, by products from overheads

This product or a component(s) is the subject of a Section 5(e) Consent Order under TSCA.

SARA 302 Status**Components****CAS-No.****Weight percent**

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

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SARA 311/312 Classification

"Fire hazard"

SARA 313 Chemical

Components

CAS-No.

Weight percent

SARA 313: 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.

US. EPA CERCLA Hazardous Substances (40 CFR 302)

Components

Reportable Quantity

Weight percent

none

INTERNATIONAL REGULATIONS

WHMIS Classification

Class B, Division 3: Combustible liquid.

European Union

Xn: Harmful

R65 Harmful: may cause lung damage if swallowed.

R66 Repeated exposure may cause skin dryness or cracking.

Australian Inventory of Chemical Substances (AICS) Listing

Not listed

Japanese Minister of International Trade and Industry (MITI) Inventory Listing

Not listed

Canadian Domestic Substance List (DSL) Inventory Listing

Not listed

Canadian Non-Domestic Substance Listing (NDSL)

Not listed

European Inventory of Existing Commercial Chemical Substances (EINECS) Listing

Not listed

Philippines Inventory List (PICCS)

Not listed

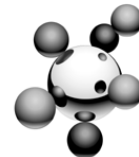
Korean Inventory List

Not listed

China Inventory List

Not listed

Please note: The names and CAS numbers which are used for this product in the stated inventories may deviate from the information which is listed in Section 3.

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STATE REGULATIONS

California Prop. 65

Components

none

CAS-No.

SECTION 16 OTHER INFORMATION**HAZARD RATINGS**

	<u>Health</u>	<u>Flammability</u>	<u>Physical Hazard/ Instability</u>
HMIS®	1	2	0
NFPA	1	2	0

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