



Triisobutylaluminum Line Flush

Version 2.4

Revision Date 2023-08-23

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

Product information

Product Name : Triisobutylaluminum Line Flush

Use : Waste

Company : Chevron Phillips Chemical Company LP
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

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 (Gifftlinjen): +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)

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

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

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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**

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 2
 Skin irritation, Category 2
 Reproductive toxicity, Category 2
 Specific target organ toxicity - single exposure, Category 3,
 Central nervous system
 Specific target organ toxicity - repeated exposure, Category 2,
 Inhalation, Nervous system
 Aspiration hazard, Category 1

Labeling

Symbol(s) : 

Signal Word : Danger

Hazard Statements : H225: Highly flammable liquid and vapor.
 H250: Catches fire spontaneously if exposed to air.
 H304: May be fatal if swallowed and enters airways.
 H315: Causes skin irritation.
 H336: May cause drowsiness or dizziness.
 H361: Suspected of damaging fertility or the unborn child.
 H373: May cause damage to organs (Nervous system) through prolonged or repeated exposure if inhaled.

Precautionary Statements : **Prevention:**
 P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.

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P222 Do not allow contact with air.
 P233 Keep container tightly closed.
 P240 Ground/bond container and receiving equipment.
 P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
 P264 Wash skin thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P302 + P334 IF ON SKIN: Immerse in cool water/ wrap in wet bandages.

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

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P331 Do NOT induce vomiting.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

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

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

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

P405 Store locked up.

P422 Store contents under inert gas.

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.

SECTION 3: Composition/information on ingredients

Component	CAS-No.	Weight %
White Mineral Oil	8042-47-5	80 - 97
n-hexane	110-54-3	3 - 20

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Triisobutyl aluminum

100-99-2

0.01 - 0.2

SECTION 4: First aid measures

- General advice : Move out of dangerous area. 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 : Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
- 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. Take victim immediately to hospital.

SECTION 5: Firefighting measures

- Flash point : -26°C (-15°F)
- Autoignition temperature : No data available
- Suitable extinguishing media : Alcohol-resistant foam. Carbon dioxide (CO₂). Dry chemical.
- 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.
- 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. 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. Keep away from combustible material.

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SECTION 6: Accidental release measures

- Personal precautions : Use personal protective equipment. 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.
- 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).

SECTION 7: Handling and storage**Handling**

- Advice on safe handling : Avoid formation of aerosol. 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. 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 a naked flame or any 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. Keep away from combustible material.

Storage

- Requirements for storage areas and containers : Prevent unauthorized access. 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 materials must comply with the technological safety standards.
- Use : Waste

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

Components	Basis	Value	Control parameters	Note
White Mineral Oil	OSHA Z-1	TWA	5 mg/m3	Mist

SDS Number:100000101921

5/15

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	ACGIH	TWA	5 mg/m3	A4, Inhalable particulate matter
	OSHA Z-1-A	TWA	5 mg/m3	Mist
n-hexane	ACGIH	TWA	50 ppm,	Skin,
	OSHA Z-1	TWA	500 ppm, 1,800 mg/m3	
	OSHA Z-1-A	TWA	50 ppm, 180 mg/m3	

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

Immediately Dangerous to Life or Health Concentrations (IDLH)

Substance name	CAS-No.	Control parameters	Update
White Mineral Oil	8042-47-5	Immediately Dangerous to Life or Health Concentration Value 2500 mg/m ³	2017-09-01
n-hexane	110-54-3	Immediately Dangerous to Life or Health Concentration Value 1100 parts per million	1995-03-01

Biological exposure indices**US**

Substance name	CAS-No.	Control parameters	Sampling time	Update
n-hexane	110-54-3	2,5-Hexanedione: 0.5 mg/l Without hydrolysis (Urine)	End of shift	2020-02-01

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 : 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. If exposure to harmful levels of airborne material may occur, a NIOSH approved respirator that provides protection may be appropriate, such as: Air-Purifying Respirator for Organic Vapors. 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.

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- 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 : 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 : light yellow, dark, opaque
 Odor : very faint

Safety data

- Flash point : -26°C (-15°F)
- Lower explosion limit : No data available
- Upper explosion limit : No data available
- Autoignition temperature : No data available
- Molecular weight : Not applicable
- pH : Not applicable
- Freezing point : No data available
- Melting point/range : No data available
- Boiling point/boiling range : No data available
- Vapor pressure : No data available
- Density : No data available
- Water solubility : Insoluble
- Solubility in other solvents : Soluble in hydrocarbon and non-polar organic solvents

SECTION 10: Stability and reactivity

- Reactivity** : Stable at normal ambient temperature and pressure.

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- 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: No decomposition if stored and applied as directed.
- Hazardous reactions: Vapors may form explosive mixture with air.
- Conditions to avoid** : Heat, flames and sparks.
- Other data** : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information**Triisobutylaluminum Line Flush**

- Acute oral toxicity** : LD50 Oral: > 5,000 mg/kg
Species: Rat
Method: Acute toxicity estimate

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- Acute inhalation toxicity** : No data available

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- Acute dermal toxicity** : LD50 Dermal: > 2,000 mg/kg
Species: Rabbit
Method: Acute toxicity estimate

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- Skin irritation** : May cause skin irritation in susceptible persons.

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- Eye irritation** : Vapors may cause irritation to the eyes, respiratory system and the skin.

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- Sensitization** : No data available.

Repeated dose toxicity

- n-hexane : Species: Rat, male
Sex: male
Application Route: Inhalation
Dose: 3,000 ppm
Exposure time: 16 wks
Number of exposures: 12 h/d
Lowest observable effect level: 3,000 ppm
Target Organs: Peripheral nervous system

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Species: Mouse, female
 Sex: female
 Application Route: Inhalation
 Dose: 500, 1,000, 4,000, 10,000 ppm
 Exposure time: 13 wks
 Number of exposures: 6h or 22h (1,000 ppm)/ 5d/wk
 Lowest observable effect level: 500 ppm
 Target Organs: Nose

Species: Mouse, male
 Sex: male
 Application Route: Inhalation
 Dose: 500, 1,000, 4000, 10,000 ppm
 Exposure time: 13 wks
 Number of exposures: 6h or 22h (1,000 ppm)/d, 5d/wk
 NOEL: 500 ppm
 Lowest observable effect level: 1,000 ppm
 Target Organs: Nose

Species: Rat, male
 Sex: male
 Application Route: oral gavage
 Dose: 568, 1,135, 3,973 mg/kg bw/day
 Exposure time: 90 or 120 days
 Number of exposures: Daily or 5d/wk (120-d study)
 NOEL: 568 mg/kg bw/day
 Lowest observable effect level: 1135 mg/kg bw/day

Genotoxicity in vitro

n-hexane

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

Test Type: Mouse lymphoma assay
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 476
 Result: negative

Test Type: Mouse lymphoma assay
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 476
 Result: Positive results were obtained in some in vitro tests.

Genotoxicity in vivo

n-hexane

: Test Type: Dominant lethal assay
 Species: Mouse
 Dose: 100 and 400 ppm
 Result: negative

Test Type: Cytogenetic assay
 Species: Rat
 Dose: 900, 3000, 9000 ppm
 Result: negative

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Carcinogenicity : Remarks: Not expected to be carcinogenic based on individual component data.

Reproductive toxicity

n-hexane : Species: Rat
Sex: male
Application Route: Inhalation
Dose: 5,000 ppm
Number of exposures: 16 hr/d, 6 d/wk
Test period: 6 wks
permanent testicular damage characterized by loss of germ-cell line

Developmental Toxicity

n-hexane : Species: Rat
Application Route: Inhalation
Dose: 200, 1,000, 5,000 ppm
Number of exposures: 20 hr/d, daily
Test period: GD 6-20
NOAEL Teratogenicity: 200 ppm
NOAEL Maternal: 200 ppm

Species: Mouse
Application Route: Inhalation
Dose: 200, 1,000, 5,000 ppm
Number of exposures: 20 hr/d, daily
Test period: GD 6-17
NOAEL Maternal: 1,000 ppm

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Aspiration toxicity : May be fatal if swallowed and enters airways.

CMR effects

n-hexane : Carcinogenicity: Not classifiable as a human carcinogen.
Mutagenicity: Did not show mutagenic effects in animal experiments.
Teratogenicity: Animal testing did not show any effects on fetal development.
Reproductive toxicity: Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

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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**Ecotoxicity effects
Toxicity to fish**

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n-hexane : LL50: 12.51 mg/l
 Exposure time: 96 h
 Species: Oncorhynchus mykiss (rainbow trout)
 Method: QSAR modeled data

Toxicity to daphnia and other aquatic invertebrates

n-hexane : EL50: 21.85 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 Method: QSAR modeled data

Toxicity to algae

n-hexane : EL50: 9.29 mg/l
 Exposure time: 72 h
 Species: Pseudokirchneriella subcapitata (green algae)
 Method: QSAR modeled data

Biodegradability : No data available

Elimination information (persistence and degradability)

Bioaccumulation : No data available

Mobility : No data available

Results of PBT assessment
 n-hexane : Non-classified vPvB substance, Non-classified PBT substance

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Harmful to aquatic life with long lasting effects.

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : Harmful to aquatic life.

Long-term (chronic) aquatic hazard : Harmful to aquatic life with long lasting effects.

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 : The product should not be allowed to enter drains, water

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courses or the soil. 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)

UN3394, ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE, (TRIIISOBUTYL ALUMINUM, N-HEXANE), 4.2 (4.3), I, MARINE POLLUTANT, (N-HEXANE), RQ (N-HEXANE)

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3394, ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE, (TRIIISOBUTYL ALUMINUM, N-HEXANE), 4.2 (4.3), I, (-26 °C c.c.), MARINE POLLUTANT, (N-HEXANE)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3394, 4.2: NOT PERMITTED FOR TRANSPORT

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

UN3394, ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE, (TRIIISOBUTYL ALUMINUM, N-HEXANE), 4.2 (4.3), I, (B/E), ENVIRONMENTALLY HAZARDOUS, (N-HEXANE)

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

X333, UN3394, ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE, (TRIIISOBUTYL ALUMINUM, N-HEXANE), 4.2 (4.3), I, ENVIRONMENTALLY HAZARDOUS, (N-HEXANE)

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

UN3394, ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE, (TRIIISOBUTYL ALUMINUM, N-HEXANE), 4.2 (4.3), I, ENVIRONMENTALLY HAZARDOUS, (N-HEXANE)

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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)
 Reproductive toxicity
 Specific target organ toxicity (single or repeated exposure)
 Aspiration hazard
 Skin corrosion or irritation

CERCLA Reportable Quantity : 25000 lbs
 n-hexane

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

SARA 302 Threshold Planning Quantity : This material does not contain any components with a section 302 EHS TPQ.

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

SARA 313 Components : The following components are subject to reporting levels established by SARA Title III, Section 313:
 : n-hexane - 110-54-3

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).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):
 : n-hexane - 110-54-3

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).

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).

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US State Regulations

Pennsylvania Right To Know

: White Mineral Oil - 8042-47-5
 n-hexane - 110-54-3
 Water - 7732-18-5

California Prop. 65
Components

: WARNING: This product can expose you to chemicals including [listed below], which is [are] known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

n-hexane

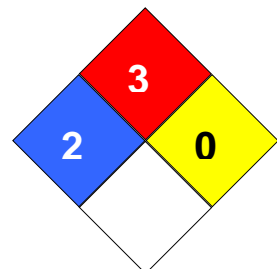
110-54-3

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 : Not in compliance with the inventory
 Canada DSL : Not in compliance with the inventory
 Australia AIIC : Not in compliance with the inventory
 New Zealand NZIoC : Not in compliance with the inventory
 Japan ENCS : Not in compliance with the inventory
 Korea KECI : Not in compliance with the inventory
 Philippines PICCS : Not in compliance with the inventory
 China IECSC : Not in compliance with the inventory
 Taiwan TCSI : Not in compliance with the inventory

SECTION 16: Other information

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

**Further information**

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.

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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
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