

**SEPARATION SYSTEMS, INC.***Experts in Gas Chromatography*100 Nightingale Lane
Gulf Breeze, Florida 32561

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SAFETY DATA SHEET

Creation Date 12-Mar-2007

Revision Date 10-June-2017

Revision 2.1

1. Identification

Product Name: ASTM D2887 Reference Gas Oil

Product Part Number: SD-016-02, SD-016-05, SD-016-325, SD-016-305, SD-039-05-TMP, SD-039-25-TMP

Synonyms Full range Gas-oil, Middle distillate, Diesel fuel, Heavy Atmospheric Gas-oil

Recommended Use Analytical Chemistry

Uses advised against No Information available

Details of the supplier of the safety data sheet

CompanySeparation Systems, Inc.
100 Nightingale Lane
Gulf Breeze, FL 32561
Tel: (850) 932-1433**Emergency Telephone Number**Call CHEMTREC, day or night:
Domestic North America 800-424-9300
International (703) 527-3887 (collect calls accepted)

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 3
Acute toxicity	Category 5, Oral
Acute toxicity	Category 4, Inhalation
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1A
Reproductive toxicity	Category 2
Specific target organ systemic toxicity - (repeated exposure)	Category 2
Chronic aquatic toxicity	Category 1

Label Elements

Signal Word

Danger

Hazard Statements

Flammable liquid and vapor.

Harmful if inhaled.

May cause genetic defects.

May cause cancer.

Suspected of damaging fertility or the unborn child.

May cause damage to organs through prolonged or repeated exposure.

Very toxic to aquatic life with long lasting effects.

May be harmful if swallowed.



Precautionary Statements

Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Keep away from heat/sparks/open flames/hot surfaces. –No smoking.
 Keep container tightly closed.
 Ground/bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting/equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Do not breathe dust/fume/gas/mist/vapor/spray.
 Use only outdoors or in a well-ventilated area.
 Avoid release to the environment.
 Wear protective gloves/protective clothing/eye protection/face protection.

Response

IF exposed or concerned: Get medical attention/advice.
 Collect spillage.

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin

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

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention

Fire

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage

Store locked up
 Store in a well-ventilated place. Keep cool.

Disposal

Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC)

None identified

Other hazards

None

3. Composition / information on ingredients

Product Information:			
Substance Name	CAS #	Percent	SARA 313
ASTM D2887 Reference Gas Oil	68783-08-4	100	N/A
Component Information:			
Ingredient Name	CAS #	Percent	SARA 313
Full Range Gas Oil	68783-08-4	98-100	N/A
May include PNA's	Various	<0.1	YES

N/A = not available

4. First-aid measures

General Advice

Move out of dangerous area. Show this safety data sheet to the doctor in attendance.

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.

Skin Contact

If on skin, rinse well with water. If on clothes, remove clothes.

Inhalation	Consult a physician after significant exposure. If unconscious place in recover position and seek medical advice.
Ingestion	Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Most important symptoms/effects	If swallowed, this product may get sucked into the lungs (aspirated) and cause lung damage or even death. Repeated and long term skin exposure to components of this product has caused systemic toxicity and cancer in laboratory animals.
Notes to Physician	Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis.

5. Fire-fighting measures

Suitable Extinguishing Media Alcohol-resistant foam. Carbon dioxide (CO₂). Dry chemical. Cool closed containers exposed to fire with water spray. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Unsuitable Extinguishing Media High volume water jet

Auto-ignition Temperature No data available

Specific Hazards Arising from the Chemical
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous Decomposition Products
Hydrocarbons. Carbon Oxides.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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 an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open flames, hot surfaces and sources of ignition.

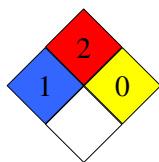
NFPA

Health
1

Flammability
2

Instability
0

Physical hazards
N/A



6. Accidental release measures

Personal Precautions Use personal protective equipment. Evacuate personnel to safe areas. Remove all sources of ignition. 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 Containment and Clean 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).

7. Handling and storage

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.

Storage 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.

8. Exposure controls / personal protection

Exposure Guidelines

Component	Limit	TWA (ppm)	STEL (ppm)	Ceiling/Peak	Notation
Full Range Gas Oil	CPCHEM	Not Established	N/A	N/A	N/A
May include PNA's	CPCHEM	Not Established	N/A	N/A	N/A
OIL MIST: ACGIH: TWA – 5 mg/m ³ , STEL – 10 mg/m ³					

Engineering Measures

If user operations generate airborne material, use process enclosures, local exhaust ventilation, or other engineering controls to limit exposure.

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses, chemical safety goggles, or face shield as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear impervious protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Users should determine acceptable performance characteristics of protective clothing. Consider physical requirements and other substances present when selecting protective clothing. Suggested materials for protective gloves include: Nitrile Rubber, viton, tyvek/saranex 23.

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: Air-Purifying Respirator for Organic Vapors. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection. Self-contained breathing apparatus should be used for firefighting.

Hygiene Measures

Do not eat, drink, or smoke while using this product. Wash hands before breaks and at the end of the workday.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Translucent, light to dark brown
Odor	Mild Rotten-egg
Odor Threshold	No information available
pH	Not applicable
Melting Point/Range	No data available
Boiling Point/Range	115-475°C (239-887°F)
Flash Point	>40°C (>100°F) Method: Tag closed cup
Evaporation Rate	< 1
Flammability (solid, gas)	Not available

Flammability or explosive limits

Upper	No data available
Lower	No data available
Vapor Pressure	< 1 mmHg @ 100°F
Vapor Density	3 (Air = 1)
Relative Density	0.848 g/cm ³ @ 16°C
Solubility (in water)	Negligible
Partition coefficient; n-octanol/water	No data available
Auto-ignition Temperature	100 °C / 212 °F
Decomposition Temperature	No information available
Viscosity, kinematic	No data available
Molecular Formula	UVCB
Molecular Weight	Not applicable

10. Stability and reactivity

Stability	This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Conditions to Avoid	Heat, flames, and sparks.
Incompatible Materials	May react with oxygen and strong oxidizers such as nitrates, chlorates, peroxides, etc.
Hazardous Decomposition Products	No decomposition if stored and applied as directed.
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	Combustion produces carbon monoxide, carbon dioxide, aldehydes, aromatic and other simple hydrocarbons.

11. Toxicological information

Route of Exposure

Skin Contact: May cause skin irritation.

Skin Absorption: Lifetime skin painting studies in animals with this product and/or its major components have produced tumors following prolonged and repeated skin contact. Repeated dermal application has produced severe irritation and systemic toxicity in subacute toxicity studies.

Eye Contact: This material is not expected to be irritating to the eyes.

Target Organ(s) or System(s)

Some components of this product, i.e., paraffins and olefins, have been shown to produce a species specific sex hormonal dependent kidney lesion in male rats from repeated oral or inhalation exposure. Subsequent research has shown that the kidney damage develops via the formation of alpha-2u-globulin, a mechanism unique to the male rat. Humans do not form alpha-2u-globulin, therefore, the kidney effects resulting from this mechanism are not relevant in humans. Some components were found to be positive in a few mutagenicity tests while negative in the majority of others. The exact relationship between these results and human health is not known.

TOXICITY DATA

Route of Application	Species	Dose
Inhalation	Human	LC50 / not known
Oral	Human	LD50 / >5000 mg/kg
Dermal	Human	LD50 / >2000 mg/kg

CHRONIC EXPOSURE

This material contains **Full Range Gas Oil**

Species	Dose	Route of Application	Exposure Time	Result
Rat	0, 30, 125, or 5000 mg/kg	Dermal	5 times/week	LOAEL = 500mg/kg <i>Effects:</i> Reduce hematopoiesis in the bone marrow

Rat	0, 8, 30, 125 or 500 mg/kg	Dermal	(0-19D PREG) daily	NOAEL maternal tox = 30 mg/kg NOAEL teratogen = 30 mg/kg <i>Specific Developmental Abnormalities at Higher Dose Levels:</i> Increase ossification of skeletal structures
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This material contains **Polynuclear Aromatics (PNA's)**

Species	Dose	Route of Application	Exposure Time	Result
Rat	0, 10, 40 or 160 mg/kg	Gavage	(7-16D PREG)	LOAEL = 40 mg/kg <i>Specific Developmental Abnormalities:</i> Reduce pup weight

CHRONIC EXPOSURE - Carcinogenicity

Species	Dose	Route of Application	Exposure Time	Result
Mouse	0.2 µg/kg, 1 x/day, 2 d/wk	Dermal	Lifetime	LOAEL = 2 µg <i>Effects:</i> Skin tumors
Rat	0.15 mg/kg, 5 x/wk	Oral	Lifetime	LOAEL = 0.15 mg/kg <i>Effects:</i> Forestomach tumors

12. Ecological information

- Ecotoxicity** No data available.
- Persistence and Biodegradability** This material is not expected to be readily biodegradable.
- Bioaccumulation** This material is expected to have high potential for bioaccumulation.
- Mobility in soil** No data available.
- Other adverse effects** Very toxic to aquatic life with long lasting effects.

13. Disposal considerations

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. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

14. Transport information

Transport Information:

This material when transported via US commerce would be regulated by DOT Regulations.

	DOT	IATA	TDG (Canada)
Proper Shipping Name	Gas Oil	Gas Oil	Gas Oil
UN#	1202	1202	1202

Hazard Class	3	3	3
Packing Group	Packing Group III	Packing Group III	Packing Group III
DOT reportable quantity (lbs)	Not established	--	--
Regulated substances	--	--	Not applicable

15. Regulatory information

UNITED STATES REGULATORY INFORMATION

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.
 OSHA Hazard Communication Standard: This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: T
 Indication of Danger: Toxic
 R: 38-45/65
 Risk Statements: Irritating to skin. May cause cancer. Harmful: may cause lung damage if swallowed.
 S: 2/45, 53, 62
 Safety Statements: Keep out of the reach of children. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid exposure – obtain special instructions before use. If swallowed do not induce vomit: seek medical advice immediately and show this container or label.

EPA Superfund Amendment & Reauthorization Act (SARA)

SARA LISTED: This product is subject to SARA section 311/312 categories:

1. Immediate (Acute) Health Effects - Yes
2. Delayed (Chronic) Health Effects - Yes
3. Fire Hazard - Yes
4. Sudden Release of Pressure Hazard - No
5. Reactivity Hazard - No

Some components of this product, specifically the PNA's are listed and subject to SARA section 313 reporting requirements.

CANADA REGULATORY INFORMATION

This product and/or its components are listed either on the Domestic Substances List (DSL) or the Non Domestic Substance List (NDSL).

Workplace Hazardous Materials Information System (WHMIS) Classification: A; B1; D1A; D2B

16. Other information

References: Not Available
Creation Date 12-Mar-2007
Revision Date 10-June-2017
Version: 2.1

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