

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Trade name : JP-5, MIL-DTL-5624
 Product code : HF 0161

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Fuel for engine development and testing

1.3. Supplier

Haltermann Solutions™
 15600 West Hardy Rd.
 Houston, TX 77060 - USA
 T 1-800-969-2542 - F 281-457-1469
dphillips@jhaltermann.com

1.4. Emergency telephone number

Emergency number : 24 HR CHEMTREC: 1-800-424-9300; Emergency Assistance: 1-800-969-2542 (8 AM to 5 PM CDT)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Flammable liquids Category 4	H227	Combustible liquid
Carcinogenicity Category 2	H351	Suspected of causing cancer
Specific target organ toxicity (single exposure) Category 3	H336	May cause drowsiness or dizziness
Specific target organ toxicity (repeated exposure) Category 2	H373	May cause damage to organs through prolonged or repeated exposure
Aspiration hazard Category 1	H304	May be fatal if swallowed and enters airways
Hazardous to the aquatic environment - Acute Hazard Category 2	H401	Toxic to aquatic life
Hazardous to the aquatic environment - Chronic Hazard Category 2	H411	Toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H227 - Combustible liquid
 H304 - May be fatal if swallowed and enters airways
 H336 - May cause drowsiness or dizziness
 H351 - Suspected of causing cancer
 H373 - May cause damage to organs through prolonged or repeated exposure
 H401 - Toxic to aquatic life
 H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

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P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective clothing, protective gloves, eye protection.
P301+P310 - If swallowed: Immediately call a doctor, a POISON CENTER
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P308+P313 - If exposed or concerned: Get medical advice/attention.
P312 - Call a doctor, a POISON CENTER if you feel unwell
P314 - Get medical advice/attention if you feel unwell.
P331 - Do NOT induce vomiting.
P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO₂), dry extinguishing powder to extinguish.
P391 - Collect spillage.
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.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Kerosine (petroleum), Straight run kerosine, [A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 150 °C to 290 °C (320 °F to 554 °F).]	(CAS-No.) 8008-20-6	75 - 95
Petroleum Distillates	(CAS-No.) 8002-05-9	5 - 25

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : May cause drowsiness or dizziness.
Symptoms/effects after ingestion : Risk of lung edema.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Fire hazard : Combustible liquid.
Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Kerosene (petroleum), Straight run kerosene, [A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 150 °C to 290 °C (320 °F to 554 °F).] (8008-20-6)

ACGIH	Local name	Kerosene/Jet fuels, as total hydrocarbon vapor
ACGIH	ACGIH TWA (mg/m ³)	200 mg/m ³ (application restricted to conditions in which there are negligible aerosol exposures-total hydrocarbon vapor)
ACGIH	Remark (ACGIH)	Skin; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure)
NIOSH	NIOSH REL (TWA) (mg/m ³)	100 mg/m ³

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OSHA	OSHA PEL (TWA) (ppm)	500 ppm
IDLH	US IDLH (ppm)	1100 ppm (10% LEL)
NIOSH	NIOSH REL (TWA) (mg/m ³)	350 mg/m ³
NIOSH	NIOSH REL (ceiling) (mg/m ³)	1800 mg/m ³

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8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Colorless liquid.
Color : Colorless
Odor : No data available
Odor threshold : No data available
pH : No data available
Melting point : Not applicable
Freezing point : No data available
Boiling point : No data available
Flash point : > 60 °C
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas) : Not applicable.
Vapor pressure : No data available
Relative vapor density at 20 °C : No data available
Relative density : 36 - 48 °API
Solubility : No data available
Log Pow : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosion limits : No data available
Explosive properties : No data available
Oxidizing properties : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Kerosine (petroleum), Straight run kerosine, [A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 150 °C to 290 °C (320 °F to 554 °F).] (8008-20-6)

LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5.28 mg/l/4h

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LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Suspected of causing cancer.

Petroleum Distillates (8002-05-9)

IARC group	3 - Not classifiable
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Reproductive toxicity : Not classified
Specific target organ toxicity – single exposure : May cause drowsiness or dizziness.

Petroleum Distillates (8002-05-9)

Specific target organ toxicity – single exposure	May cause drowsiness or dizziness.
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Specific target organ toxicity – repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Petroleum Distillates (8002-05-9)

Specific target organ toxicity – repeated exposure	May cause damage to organs through prolonged or repeated exposure.
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Aspiration hazard : May be fatal if swallowed and enters airways.
Viscosity, kinematic : No data available
Symptoms/effects : May cause drowsiness or dizziness.
Symptoms/effects after ingestion : Risk of lung edema.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects. Toxic to aquatic life.

Petroleum Distillates (8002-05-9)

LC50 fish 1	3 mg/l (Exposure time: 96 h - Species: Oncorhynchus Mykiss)
EC50 Daphnia 1	< 0.26 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

12.2. Persistence and degradability

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Persistence and degradability	Biodegradability in soil: no data available.
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12.3. Bioaccumulative potential

Kerosine (petroleum), Straight run kerosine, [A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 150 °C to 290 °C (320 °F to 554 °F).] (8008-20-6)

Bioaccumulative potential	No bioaccumulation data available.
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Petroleum Distillates (8002-05-9)

Bioaccumulative potential	Not bioaccumulative.
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12.4. Mobility in soil

Kerosine (petroleum), Straight run kerosine, [A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 150 °C to 290 °C (320 °F to 554 °F).] (8008-20-6)

Surface tension	0.02 - 0.03 N/m
Ecology - soil	Adsorbs into the soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1863 Fuel, aviation, turbine engine, 3, III
UN-No.(DOT) : UN1863
Proper Shipping Name (DOT) : Fuel, aviation, turbine engine
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT) : III - Minor Danger
Hazard labels (DOT) : 3 - Flammable liquid



Dangerous for the environment : Yes

Marine pollutant : Yes



DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 242

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DOT Special Provisions (49 CFR 172.102)	: 144 - If transported as a residue in an underground storage tank (UST), as defined in 40 CFR 280.12, that has been cleaned and purged or rendered inert according to the American Petroleum Institute (API) Standard 1604 (IBR, see 171.7 of this subchapter), then the tank and this material are not subject to any other requirements of this subchapter. However, sediments remaining in the tank that meet the definition for a hazardous material are subject to the applicable regulations of this subchapter. B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T2 - 1.5 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Emergency Response Guide (ERG) Number	: 128
Other information	: No supplementary information available.

Transport by sea

Transport document description (IMDG)	: UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (aviation fuel), 9, III
UN-No. (IMDG)	: 3082
Proper Shipping Name (IMDG)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class (IMDG)	: 9 - Miscellaneous dangerous substances and articles
Packing group (IMDG)	: III - substances presenting low danger
Marine pollutant	: Yes



Air transport

Transport document description (IATA)	: UN 3082 Environmentally hazardous substance, liquid, n.o.s. (aviation fuel), 9, III
UN-No. (IATA)	: 3082
Proper Shipping Name (IATA)	: Environmentally hazardous substance, liquid, n.o.s.
Class (IATA)	: 9 - Miscellaneous Dangerous Goods
Packing group (IATA)	: III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

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Listed on the United States TSCA (Toxic Substances Control Act) inventory

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Petroleum Distillates (8002-05-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

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Listed on the Canadian DSL (Domestic Substances List)

Petroleum Distillates (8002-05-9)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Kerosine (petroleum), Straight run kerosine, [A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 150 °C to 290 °C (320 °F to 554 °F).] (8008-20-6)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Petroleum Distillates (8002-05-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Kerosine (petroleum), Straight run kerosine, [A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 150 °C to 290 °C (320 °F to 554 °F).] (8008-20-6)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

Petroleum Distillates (8002-05-9)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
Kerosine (petroleum), Straight run kerosine, [A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 150 °C to 290 °C (320 °F to 554 °F).](8008-20-6)	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
Petroleum Distillates(8002-05-9)	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Full text of H-phrases:

H227	Combustible liquid
H304	May be fatal if swallowed and enters airways
H336	May cause drowsiness or dizziness
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

SDS US (GHS HazCom 2012)

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