Revision: 3.0 Date: 14 April 2021

ACCORDING TO OSHA HCS (29 CFR 1910.1200)



Kerosene, Jet Fuel

# **SECTION 1: IDENTIFICATION**

**Product identifier** 

Product name Kerosene, Jet Fuel CAS No 8030-30-6

Other means of identification K-1 Kerosene, K-2 Kerosene, Paraffinic Kerosene, Petroleum Distillate-

Kerosene, Low- Sulfur Kerosene, Ultra Low Sulfur Kerosene, ULSK, Jet

Fuel, Jet Fuel Stock, Jet A, Aviation Jet Fuel A, JP-5, JP-8, DERD

Relevant identified uses of the substance or mixture

and uses advised against

Identified Use(s) Fuel

Uses advised against Anything other than the above.

Details of the supplier of the safety data sheet

Supplier Vitol Aviation Company

1100 Louisiana St., Suite 550

Houston, Texas 77002

Telephone (713) 230-1000 Fax (713) 230-1234

E-mail (competent person) SDSHOU@vitol.com

**Emergency telephone number** 

Emergency Phone No. Chemtrec: US/Canada: 1-800-424-9300 (24h)

Mexico: 800 681 9531 (24h)

# **SECTION 2: HAZARDS IDENTIFICATION**

Classification of the substance or mixture in accordance with paragraph (d) of 29 CFR 1910.1200

Physical hazards Flammable Liquid, Category 2
Health hazards Aspiration hazard, Category 1

Skin Corrosion/Irritation, Category 2

Specific target organ toxicity — single exposure, Category 3 (Narcotic effects)

Environmental hazards Hazardous to the aquatic environment, Acute, Category 2

Hazardous to the aquatic environment, Chronic, Category 2

Label elements

Hazard Pictogram(s)









Signal Word(s) DANGER

Hazard Statement(s) Flammable liquid and vapour.

May be fatal if swallowed and enters airways.

Causes skin irritation.

May cause drowsiness or dizziness.

Toxic to aquatic life with long lasting effects.

Precautionary Statement(s) Keep away from heat, hot surfaces, sparks, open flames and other ignition

sources. No smoking. Keep container tightly closed.

Store in a well-ventilated place. Keep cool. Obtain special instructions before use.

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Do not breathe vapour.

Wear protective gloves/eye protection/face protection.

IF SWALLOWED: Immediately call a POISON CENTER/doctor.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Do NOT induce vomiting.

Avoid release to the environment.

Other hazards

The vapour is heavier than air; beware of pits and confined spaces. May cause irritation to eyes and air passages. Product may release Hydrogen Sulphide: A specific assessment of inhalation risks from the presence of hydrogen sulphide in tank headspaces, confined spaces, product residue, tank waste and waste water, and unintentional releases should be made to help determine controls appropriate to local circumstances.

Percent of the mixture consists of ingredient(s) of unknown acute toxicity:

0% of the mixture consists of ingredients of unknown acute inhalated toxicity.
0% of the mixture consists of ingredients of unknown acute oral toxicity.
0% of the mixture consists of ingredients of unknown acute dermal toxicity.

# **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

#### Substances

Classification: OSHA HCS (29 CFR 1910.1200)

Chemical identity of the substance	%W/W	CAS No.	EC No.
Kerosine (petroleum)	0 - 100	8030-30-6	232-443-2

#### **Hazardous constituents**

Chemical identity of the substance	%W/W	CAS No.	EC No.
Distillates, petroleum residues vacuum	0 - 100	68955-27-1	273-263-4
Naphthalene	0 - 3	91-20-3	202-049-5
Xylene (o, m, p isomers)	0 - 2	1330-20-7	215-535-7
Ethylbenzene	0 - 1	100-41-4	202-849-4
Toluene	0 - 1	108-88-3	203-625-9
Cyclohexane	0 - 1	110-82-7	203-806-2
Benzene	0 - 1	71-43-2	200-753-7
Hydrogen sulfide	< 0.1	7783-06-4	231-977-3

## **SECTION 4: FIRST AID MEASURES**



Description of first aid measures

Self-protection of the first aider

H2S Warning:

Inhalation

Avoid all contact. Do not breathe vapour. Eliminate sources of ignition. If it is suspected that fumes are still present, the responder should wear an appropriate mask or self-contained breathing apparatus. Drench contaminated clothing with water before removing to avoid risk of sparks from static electricity. Do not use mouth-to-mouth resuscitation. No action should be taken involving personal risk. Wear appropriate personal protective equipment, avoid direct contact. Do not ingest. If swallowed then seek immediate medical assistance.

Hydrogen sulphide (H2S) can accumulate in the headspace of storage tanks and reach potentially hazardous concentrations.

If there is any suspicion of inhalation: A self contained breathing apparatus should be worn. Remove to fresh air immediately.

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Apply artificial respiration only if patient is not breathing but do not use mouth to mouth resuscitation. Get medical advice/attention if you feel unwell.

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Skin contact

IF ON SKIN (or hair): Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water. If irritation persists, get medical attention.

Eye contact

IF IN EYES: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention. Immediately call a POISON CENTER/doctor.

Ingestion

IF SWALLOWED: rinse mouth. Do NOT induce vomiting. If unconscious, place in recovery position and get medical attention immediately. Wash out mouth with water and give small quantities of water to drink. Do not give anything by mouth to an unconscious person. Get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Do not wait for symptoms to appear.

Most important symptoms and effects, both acute and delayed

May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Notes to a physician:

IF SWALLOWED: Do not induce vomiting because of risk of aspiration into the lungs. If aspiration is suspected obtain immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration into the lungs.

# **SECTION 5: FIREFIGHTING MEASURES**

#### **Extinguishing media**

Suitable extinguishing media

Extinguish with sand or dry chemical. Foam, Carbon dioxide, Water fog or dry powder

Unsuitable extinguishing media

Do not use water jet. Direct water jet may spread the fire.

Special hazards arising from the substance or mixture

Flammable liquid and vapour. Will float and can be reignited on surface water. A mixture of solid and liquid particulates and gases including unidentified organic and inorganic compounds. May form explosive mixture with air. Prevent liquid entering sewers, basements and any watercourses. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback. If sulphur compounds are present in appreciable amounts, combustion products may include also H2S and SOx (sulfur oxides) or sulfuric acid.

Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Keep containers cool by spraying with water if exposed to fire. Avoid release to the environment. Dike fire control water for later disposal.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures Caution - spillages may be slippery. Ensure operatives are trained to minimise exposures. Ensure suitable personal protection during removal of spillages. Eliminate sources of ignition. Shut off leaks if without risk. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid all contact. Do not breathe vapour. Ensure adequate ventilation. Do not ingest. If swallowed then seek immediate medical assistance. Do not use sparking tools. Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems.

Methods and material for containment and cleaning up

Provided it is safe to do so, isolate the source of the leak. Use non-sparking equipment when picking up flammable spill. The vapour is heavier than air; beware of pits and confined spaces. Ensure that the equipment is adequately grounded. Allow small spillages to evaporate provided there is adequate ventilation. Wear flame-resistant antistatic protective clothing. Wear chemical protection suit and breathing apparatus.

### **SECTION 7: HANDLING AND STORAGE**

Precautions for safe handling

Obtain special instructions before use. Keep away from sources of ignition - No smoking. Use only outdoors or in a well-ventilated area. Prevent vapour build up by providing adequate ventilation during and after use. May form explosive mixtures with air. Take action to prevent static discharges. Use non-sparking

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H2S Warning:

Conditions for safe storage, including any incompatibilities

Storage temperature Incompatible materials tools. All parts of the plant and equipment should be electrically bonded together and connected to earth. Electrical continuity should be checked at regular intervals. Antistatic clothing and footwear should be used. The vapour is heavier than air; beware of pits and confined spaces. Avoid all contact with substance. Do not ingest. If swallowed then seek immediate medical assistance. Do not breathe vapour. See Section: 8. Keep good industrial hygiene. Wash hands thoroughly after handling. Contaminated clothing should be thoroughly cleaned.

Product may release Hydrogen Sulphide: A specific assessment of inhalation risks from the presence of hydrogen sulphide in tank headspaces, confined spaces, product residue, tank waste and waste water, and unintentional releases should be made to help determine controls appropriate to local circumstances. These controls may include: Segregation of areas, Access only to authorised persons, Permit to work systems, Confined space working procedures, Area H2S alarms, Personal H2S alarms, Personal escape sets, H2S awareness training. Light hydrocarbon vapours can build up in the headspace of containers. These can cause flammability / explosion hazards. Bund storage facilities to prevent soil and water pollution in the event of spillage. Keep only in original packaging. Keep containers properly sealed when not in use. Protect from sunlight. Containers of this material may be hazardous when empty since they retain product residue. Empty container may contain product residue which may result in flammable or explosive vapours inside the container.

Stable at ambient temperatures.

Keep away from oxidising agents. Strong Acids and Alkalis.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### Occupational exposure limits

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m³)	STEL (ppm)	STEL (mg/m³)	Note
(Vaugaina (matuala um)	8008-20-6	=	100	-	-	NIOSH
Kerosine (petroleum)	0000-20-0	2000	-	-	-	ACGIH
		10	50	15	75	NIOSH
Naphthalene	91-20-3	10	50			OSHA
		10	-	-	-	ACGIH
Videns	1000 00 7	100	435	150	655	NIOSH
Xylene	1330-20-7	100	435	-	-	OSHA
		100	435	125	545	NIOSH
Ethylbenzene	100-41-4	100	435	-	-	OSHA
		20	-	-	-	ACGIH
		100	375	150	560	NIOSH
Toluene	108-88-3	-	-	300	-	OSHA
		20	-	-	-	ACGIH
		300	1050	-	-	NIOSH
Cyclohexane	110-82-7	300	1050	-	-	OSHA
		100	-	-	-	ACGIH
Benzene	71-43-2	0.1	0.42	1	3.2	NIOSH
		1	-	5	-	OSHA
		0.5	-	2.5	-	ACGIH
	7783-06-4	-	-	10	15	NIOSH
Hydrogen Sulfide		-	-	20	-	OSHA
		1	-	5	-	ACGIH

Note: OSHA PELs 1910.1000 TABLE Z-1/2/3 (delete as appropriate)/ NIOSH RELs / ACGIH TLVs

#### **Biological exposure indicies**

SUBSTANCE	CAS No.	Determinant	Biological Exposure Indices	Sampling Time	Note
Naphthalene	91-20-3	1-Naphthol* + 2-Naphthol*	-	End of shift	Nq, Ns

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Xylene, o-,m-,p- or mixed isomers	1330-20-7	Methylhippuric acids in urine.	1.5 g/g Creatinine	End of shift	-
Ethylbenzene	100-41-4	Sum of mandelic acid and phenylglyoxylic acid in urine	0.15 g/g Creatinine	End of shift	Ns
		Toluene in blood	0.02 mg/l	Prior to last shift of workweek	-
Toluene	108-88-3	Toluene in urine	0.03 mg/l	End of shift	-
		o-Cresol in urine with hydrolosis	0.3 mg/g creatinine	End of shift	В

Note:

B: Background Na: Nonguantitative

Ns: The determinant is nonspecific, since it is also observed after exposure to other chemicals.

## Appropriate engineering controls

Provide adequate ventilation, including appropriate local extraction if dusts, fumes or vapours are likely to be evolved. Store in a cool/low-temperature, wellventilated (dry) place away from heat and ignition sources. Guarantee that the eye flushing systems and safety showers are located close to the working place.

### Individual protection measures, such as personal protective equipment

Fuels are typically used, transferred and transported in closed systems. If exposure is likely (i.e. during sampling) the following advice may be appropriate. Keep good industrial hygiene. Always wash hands before smoking, eating and drinking. Do not eat, drink or smoke at the work place. Avoid all contact. Do not breathe vapour. Avoid exposure during pregnancy.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Eye/ face protection



Use eye protection according to EN 166, designed to protect against liquid splashes.

Skin protection



Hand protection: Wear impervious gloves (recommended: EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Protective index 6, corresponding > 480 minutes of permeation time according to EN 374. Efficiency of at least 80%).

Recommended: Nitrile rubber:

# Body protection: Wear anti-static clothing and shoes.

Small scale: Wear suitable coveralls to prevent exposure to the skin.

Large scale: Chemical protection suit.

When the product is heated / In case of inadequate ventilation wear respiratory protection. The use of a high efficiency filter (recommended: EN143) is

recommended. Filter type A1.

Closed system(s): Not normally required.

# Respiratory protection



## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

### Information on basic physical and chemical properties

Appearance Odour

Odour threshold

Melting point/freezing point Initial boiling point and boiling range

Flash point Evaporation rate Clear. Straw. Yellow or brown Liquid (may be dyed red)

Kerosene (strong). Not available Not available

-60.07 °F (-51.15 °C) Estimated

Not available

> 100.0 °F (> 37.8 °C) Closed Cup

Not available

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Flammability (solid, gas) Not applicable – Liquid

Lower limit: ≥0.7 %

Vapour pressure Not available

Vapour density

Not available
Relative density

Not available

Solubility(ies) Not available

Partition coefficient: n-octanol/water Not available
Auto-ignition temperature Not available
Decomposition temperature Not available

Viscosity Not available

## **SECTION 10: STABILITY AND REACTIVITY**

Reactivity Stable under normal conditions. Reacts with - Strong oxidising agents

Chemical stability

Stable under normal conditions. Hazardous polymerisation will not occur.

**Possibility of hazardous reactions**Flammable liquid and vapour. May form explosive mixture with air. Vapours are heavier than air and may travel considerable distances to a source of ignition

and flashback. Product may release Hydrogen Sulphide.

**Conditions to avoid**Elevated temperature. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from direct sunlight.

Incompatible materials Keep away from oxidising agents. Strong Acids and Alkalis.

Hazardous decomposition products A mixture of solid and liquid particulates and gases including unidentified organic

and inorganic compounds. Decomposes in a fire giving off toxic fumes: COx,

H2S, SOx,

## **SECTION 11: TOXICOLOGICAL INFORMATION**

Information on toxicological effects

Acute toxicity - Ingestion

Based upon the available data, the classification criteria are not met.

Calculated acute toxicity estimate (ATE) >2,000 mg/kg.

Acute toxicity - Inhalation Based upon the available data, the classification criteria are not met.

Calculated acute toxicity estimate (ATE) > 5 mg/L (Vapour)

Acute toxicity - Skin contact

Based upon the available data, the classification criteria are not met.

Calculated acute toxicity estimate (ATE) >2,000 mg/kg.

Skin corrosion/irritation Skin Corrosion/Irritation, Category 2: Causes skin irritation.

Irritating to skin. (rabbit) (OECD 404)

Serious eye damage/irritation

Based upon the available data, the classification criteria are not met.

Respiratory or skin sensitisationBased upon the available data, the classification criteria are not met.Germ cell mutagenicityBased upon the available data, the classification criteria are not met.CarcinogenicityBased upon the available data, the classification criteria are not met.Reproductive toxicityBased upon the available data, the classification criteria are not met.

STOT - single exposure Specific target organ toxicity — single exposure, Category 3 (Respiratory

Irritation): May cause respiratory irritation.

ECHA Registration Endpoint summary: Irritating to eyes, respiratory system and

skir

STOT - repeated exposure Based upon the available data, the classification criteria are not met.

Aspiration hazard Aspiration hazard, Category 1: May be fatal if swallowed and enters airways.

EU Harmonised Classification

Kinematic Viscosity: ≥ 1 - ≤ 2.4 @ 40°C Unnamed publication, 2010)

Information on likely routes of exposure

 Inhalation
 Possible – accidental exposure

 Ingestion
 Possible – accidental exposure

 Skin contact
 Possible – accidental exposure

 Eye contact
 Unlikely – accidental exposure

Early onset symptoms related to exposure May be fatal if swallowed and enters airways. Causes skin irritation. May cause

drowsiness or dizziness.

Delayed health effects from exposure None known

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Exposure levels and health effects See Section: 8

Interactive effects None known

Other information

OSHA Designated Carcinogen Not listed NIOSH Occupational Carcinogen List Not listed NTP Report on Carcinogens Not listed IARC Monographs Not listed

## **SECTION 12: ECOLOGICAL INFORMATION**

Hazardous to the aquatic environment, Acute, Category 3: Harmful to aquatic **Toxicity** 

Hazardous to the aquatic environment, Chronic, Category 3: Harmful to aquatic

life with long lasting effects.

Persistence and degradability Substance is complex UVCB. Standard tests for this endpoint are intended for

single substances and are not appropriate for this complex substance

Bioaccumulative potential Substance is complex UVCB. Standard tests for this endpoint are intended for

single substances and are not appropriate for this complex substance

Mobility in soil Substance is complex UVCB. Standard tests for this endpoint are intended for

single substances and are not appropriate for this complex substance

None known.

## **SECTION 13: DISPOSAL CONSIDERATIONS**

Other adverse effects

Waste treatment methods Dispose of this material and its container as hazardous waste. Do not empty

> into drains, dispose of this material and its container at hazardous or special waste collection point. Disposal should be in accordance with local, state or national legislation. Containers of this material may be hazardous when empty

> > Sea transport (IMDG)

UN1268

Air (ICAO/IATA)

Environmentally

UN1268

Ш

since they retain product residue.

# **SECTION 14: TRANSPORT INFORMATION**

Road/rail (ADR/RID) **UN** number UN1268

**UN** proper shipping name PETROLUEM **PETROLUEM PETROLUEM** DISTILLATES N.O.S. DISTILLATES N.O.S. DISTILLATES N.O.S.

Not applicable

Transport hazard class(es)

Packing group Ш **Environmental hazards** Environmentally Classified as a Marine

hazardous substance Pollutant.

hazardous substance Special precautions for user See Section: 2

Transport in bulk according to Annex II of Marpol

and the IBC Code

### SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

**US Federal Regulations** 

TSCA Chemical Data Reporting (CDR) Rule Listed NIOSH Occupational Carcinogen List Not listed **EPCRA Section 313** Not listed CWA 307- Toxic Not listed **CERCLA - Hazardous Substances** Not listed CWA Section 311 List of Hazardous Substances Not listed

**US State Regulations** 

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Proposition 65 (California)

Massachusetts, New Jersey, Pennsylvania, Rhode

Listed

Island- State Right to Know Lists

 New York -State Right to Know Lists
 Not listed

 Minnesota - State Right to Know Lists
 Listed

 Massachusetts - Toxic Use reduction act
 Not listed

Non-Regional

IARC Monographs Not listed

## **SECTION 16: OTHER INFORMATION**

The following sections contain revisions or new statements: Updated substance / mixture classification. Updated version and date. New format has been issued, all sections have been updated to include new information. Review SDS with care.

Version 3.0

Revision Date 14 April 2021

**Date of First Issue** Not available. 2<sup>ND</sup> ISSUE RELEASED JUNE, 15 2015

This Safety Data Sheet was prepared in accordance with US Regulation OSHA HCS (29 CFR 1910.1200)

#### References:

Existing Safety Data Sheet (SDS),

EU Harmonised Classification and Existing ECHA registration for Kerosine (petroleum) (CAS No. 8008-20-6).

Classification of the substance or mixture in accordance with paragraph (d) of 29 CFR 1910.1200	Classification procedure
Flammable Liquid, Category 3	Flash point
Aspiration hazard, Category 1	High percentage inclusion of components with aspiration hazard
Skin Corrosion/Irritation, Category 2	Threshold calculation
Specific target organ toxicity — single exposure, Category 3	Threshold calculation
Hazardous to the aquatic environment, Acute, Category 3	Summation Calculation
Hazardous to the aquatic environment, Chronic, Category 3	Summation Calculation

Legend

ADR/RID ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road / RID: Regulations

concerning the international railway transport of dangerous goods

ATE Acute Toxicity Estimate
BCF Bioconcentration factor (BCF)
CAS Chemical Abstracts Service

CERCLA Comprehensive Environmental Response Compensation and Liability Act

CWA Clean Water Act
EC European Community
ECHA European Chemicals Agency

EPCRA Emergency Planning and Community Right-to-Know Act

EN European Standard EU European Union

IARC International Agency for Research on Cancer

ICAO/IATA International Civil Aviation Organization / International Air Transport Association

IMDG IMDG: International Maritime Dangerous Goods

LC50 Lethal concentration at which 50% of the population is killed

LD50 Lethal dose at which 50% of the population is killed

LTEL Long term exposure limit

OECD Organisation for Economic Cooperation and Development

OSHA The Occupational Safety & Health Administration

STEL Short term exposure limit
TSCA Toxic Substance Control Act
TWA Time Weighted Average

UN United Nations

UVCB Unknown or Variable Composition

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Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

#### **Disclaimers**

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