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

1.1 Product identifier

AVIATION TURBINE JET FUEL

1.1 Product identifier

Name of the substance: Aviation Turbine Jet Fuel
Synonyms: Laboratory Aviation Kerosene Sample
Product Numbers: N/A
Revision Date: 3-10-2021

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory test sample
Uses advised against: Other uses are not recommended unless an assessment is completed, prior to commencement of that use, which demonstrates that the use will be controlled.

1.3 Details of the supplier of the safety data sheet

Clark Laboratories
1801 Route 51 South
Jefferson Hills, PA 15025
412-387-1001

1.4 Emergency Telephone #

Transportation Emergency Response
Chemtrec (United States Only) - 24 hour emergency response:
(800) 424-9300
International Collect: +1 703 741 5970
SDS Assistance Email: sds@clarktesting.com

SECTION 2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Product definition: UVCB
Classification according to Regulation (EC) No. 1272/2008 (CLP/GHS)
- Flam. Liq 3, H226
- Skin Irrit. 2, H315
- STOT SE 3, H336
- Aquatic Toxic, 2 H401
- ASP. Tox 1, H304
- Aquatic Chronic 2, H411
2.2 Label elements
Hazardous Pictograms

SIGNAL WORD: DANGER

Hazards
H226 - Flammable liquid and vapor. May accumulate electrostatic charge and ignite or explode.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H336 - May cause drowsiness or dizziness.
H351 – Suspected of causing cancer.
H355 – May cause respiratory irritation.
H411 - Toxic to aquatic life with long lasting effects.

Precautions
P201 - Obtain special instruction 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.
P233 – Keep container tightly closed.
P241 – Use explosion-proof electrical/ventilating/lighting equipment.
P242 - Use non-sparking tools.
P243 - Take action to prevent static discharges.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303 + P361 + P353 – If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P331 – Do NOT induce vomiting.
P332 + P333 – If skin irritation occurs: Get medical advice/ attention.
P312 - Call a POISON CENTER/doctor/ if you feel unwell.
P370 + P378 - In case of fire: Use foam, CO2, or dry chemical for extinction.
P403 + P235 – Store in well ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to an approved waste disposal company

2.3 Other hazards Not applicable.

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS
3.1 Mixtures
<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>EC NUMBER</th>
<th>CAS NUMBER</th>
<th>% Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>KEROSENE (petroleum)</td>
<td>232-366-4</td>
<td>8008-20-6</td>
<td>95-100</td>
</tr>
<tr>
<td>NAPHTHALENE</td>
<td>202-049-5</td>
<td>91-20-3</td>
<td>0.5-1</td>
</tr>
<tr>
<td>ETHYL BENZENE</td>
<td>202-849-4</td>
<td>100-41-4</td>
<td>0.1-1</td>
</tr>
<tr>
<td>1,2,4-TRIMETHYLBENZENE</td>
<td>202-436-9</td>
<td>95-63-6</td>
<td></td>
</tr>
<tr>
<td>XYLENE (mixed isomers)</td>
<td>215-535-7</td>
<td>1330-20-7</td>
<td>0.1-1</td>
</tr>
<tr>
<td>CUMENE</td>
<td>202-704-5</td>
<td>98-82-8</td>
<td>0.1-1</td>
</tr>
</tbody>
</table>

SECTION 4 FIRST AID MEASURES
4.1 Description of first aid measures
Eye: This product can cause eye irritation with short-term contact with liquid, mists or vapor. Symptoms include stinging, watering, redness and swelling. In severe cases, permanent eye damage can result.
Skin: Wash skin with water immediately and remove contaminated clothing and shoes. Get medical attention if any symptoms develop. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: If swallowed, this material may irritate the mouth, throat, and esophagus. It can be absorbed into the blood stream through the stomach and intestinal tract. Symptoms may include a burning sensation of the mouth and esophagus, nausea and vomiting. In addition, it can cause central nervous system effects characterized by dizziness, staggering, drowsiness, delirium and/or loss of consciousness.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

4.2 Most important symptoms and effects, both acute and delayed
IMMEDIATE SYMPTOMS AND HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin causes irritation. Symptoms may include pain, itching, discoloration, swelling, and blistering.

Ingestion: Because of its low viscosity, this material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death. May be irritating to mouth, throat, and stomach. Symptoms may include pain, nausea, vomiting, and diarrhea.
Inhalation: Not expected to be harmful if inhaled.
DELAYED OR OTHER SYMPTOMS AND HEALTH EFFECTS: Not classified.

4.3 Indication of any immediate medical attention and special treatment needed
Note to Physicians: Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis.

SECTION 5 FIRE FIGHTING MEASURES
5.1 Extinguishing media
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.
5.2 Special hazards arising from the substance or mixture
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.
5.1 Advice for firefighters
Protection of firefighters
5.3.1 FIRE CLASSIFICATION:
NFPA RATINGS: Health: 1 Flammability: 2 Reactivity: 0
5.3.2 FLAMMABLE PROPERTIES:
Flashpoint: >100 deg. F (>37.78 °C) Closed cup-Tagliabue
OSHA/NFPA FLAMIBILITY CLASS: 3 (combustible) (see sec
This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing
SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Eliminate all sources of ignition in the vicinity of the spill or released vapor. If this material is released into the work area, evacuate the area immediately. Monitor area with combustible gas indicator.

6.2 Environmental precautions
Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater.

6.3 Methods and material for containment and cleaning up/Spill Management
Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. All equipment used when handling the product must be grounded. A vapor suppressing foam may be used to reduce vapors. Use clean nonsparking tools to collect absorbed material. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling/Precautionary Measures
Liquid evaporates and forms vapor (fumes) which can catch fire and burn with explosive force. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. Fire hazard is greater as liquid temperature rises above 29°C (85°F).
Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Do not breathe mist. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.
General Storage Information: Do not use or store near heat, sparks or open flames. Use and store only in well ventilated areas. Keep container closed when not in use.

7.3 Specific end use(s): Fuel

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
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. Refer to appropriate CEN standards.

8.1 Control parameters
Occupational Exposure Limits:
Component Country/
Agency
TWA STEL Ceiling Notation
Kerosine (petroleum) CVX -- 1000 mg/m³ --
Kerosine (petroleum),
hydrodesulfurized
CVX -- 1000 mg/m³ --
Naphthalene EU-indicative 50 mg/m³ -- --
Naphthalene United
Kingdom
80 mg/m³ 53 mg/m³ -- --

8.2 Exposure controls
ENGINEERING CONTROLS:
Use in a well-ventilated area.
PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: Wear protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted.
Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Polyvinyl Alcohol (PVA) (Note: Avoid contact with water. PVA deteriorates in water.), Viton.
Respiratory Protection: No respiratory protection is normally required. If exposure to harmful levels of airborne material may occur when working with this material, wear an approved respirator that provides protection, such as: Air-Purifying Respirator for Organic Vapors.
ENVIRONMENTAL EXPOSURE CONTROLS:
See relevant Community environmental protection legislation or the Annex, as applicable.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES
Attention: the data below are typical values and do not constitute a specification.
9.1 Information on basic physical and chemical properties
Appearance
Color: Clear to light yellow
Physical State: Liquid
Odor: Kerosene petroleum
Odor Threshold: no data available
pH: Not Applicable
Melting Point / Freezing Point: -51.1 to -40 °C / -60 to -40
Initial Boiling Point / Boiling range: 143.9 - 300 °C / 291-572 °F
Flashpoint: > 100.0 °F (>37.8 °C) Closed cup (Tagliabue)
Evaporation Rate: No data available
flammability (solid, gas): No Data Available
flammability (Explosive) Limits (% by volume in air):
Lower: 0.7 Upper: 5.0
Vapor Pressure: <0.688 kPa (<5.171 mm Hg) @ 37.8 °C (100°F) REID
Vapor Density No data available
Specific Gravity / Relative Density: 0.81
Water Solubility: Negligible
Partition coefficient: No data available
Auto-ignition temperature: 210 °C (410 °F)
Decomposition temperature: No Data Available
Kinematic Viscosity: 2 mm²/s (2 cSt) @ 40° (104°F)
Explosive Properties: No Data Available
Oxidising properties: No Data Available

9.2 Other Information: No Data Available
SECTION 10 STABILITY AND REACTIVITY
10.1 Reactivity: This material is not expected to react.
10.2 Chemical Stability: The material is stable at 70°F (21°C), 760 mmHg pressure.
10.3 Possibility of hazardous reactions: None under normal use conditions.
10.4 Conditions to Avoid: Heat, flames and sparks. Excessive heat.
10.5 Incompatible materials to avoid: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
10.6 Hazardous decomposition products: None known (None expected)

SECTION 11 TOXICOLOGICAL INFORMATION
11.1 Information on toxicological effects
Serious Eye Damage/Irritation: The Draize eye irritation mean score in rabbits for a 24-hour exposure was: 0.0/110.
Skin Corrosion/Irritation: For a 4-hour exposure, the Primary Irritation Index (PII) in rabbits is: 5.5/8.
Skin Sensitization: This material did not cause skin sensitization reactions in a Buehler guinea pig test.
Acute Dermal Toxicity: LD50: >5g/kg (rabbit).
Acute Oral Toxicity: LD50: >5 g/kg (rat)
Acute Inhalation Toxicity: 4 hour(s) LC50: >5ml/l (rat).
Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.
Carcinogenicity: Carcinogenicity: OSHA: No \ARC: No NTP: No ACGIH: 1997 NIOC: A3
Dermal carcinogenicity: positive
Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.
Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.
Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

SECTION 12 ECOLOGICAL INFORMATION
12.1 Toxicity
This material is expected to be toxic to aquatic organisms.
7 day(s) EC50: 1.19 mg/l (Mysidopsis bahia)
12.2 Persistence and degradability
This material is not expected to be readily biodegradable. May cause long-term adverse effects in the aquatic environment. The results of a 28-day ready biodegradability test (% degraded): ND .The product has not been tested. The statement has been derived from products of a similar structure and composition.
12.3 Bioaccumulative potential
Bioconcentration Factor: No Data Available
Octanol/Water Partition Coefficient: No data available
12.4 Mobility in soil
No data available.
12.5 Results of PBT and vPvB assessment
This product is not, or does not contain, a substance that is a potential PBT or a vPvB.
12.6 Other adverse effects
No other adverse effects identified.

SECTION 13 DISPOSAL CONSIDERATIONS
13.1 Waste treatment methods
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 international, country, or local laws and regulations. In accordance with European Waste Catalogue (E.W.C.) the codification is the following: 13 07 03
SECTION 14 TRANSPORT INFORMATION
The description shown may not apply to all shipping situations. Consult appropriate Dangerous Goods Regulations for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

IATA/DOT/ICAO Shipping Name: FUEL, AVIATION, TURBINE ENGINE

IATA/DOT/ICAO Hazard Class and packing group: 3, PGIII

IATA/DOT/ICAO Identification Number: UN1863

IATA/DOT/ICAO Shipping Label: Flammable Liquid

May be reclassified for transportation as a combustible liquid under conditions of DOT 49 CFR 173.150(b)(2)

ADR/RID
14.1 UN number: UN1863
14.2 UN proper shipping name: FUEL, AVIATION, TURBINE ENGINE
14.3 Transport hazard class(es): 3
14.4 Packing group: III
14.5 Environmental hazards: Yes
14.6 Special precautions for user: Hazard ID No: 30

ICAO
14.1 UN number: UN1863
14.2 UN proper shipping name: FUEL, AVIATION, TURBINE ENGINE
14.3 Transport hazard class(es): 3
14.4 Packing group: III
14.5 Environmental hazards: Yes
14.6 Special precautions for user: Not applicable

IMO
14.1 UN number: UN1863
14.2 UN proper shipping name: FUEL, AVIATION, TURBINE ENGINE
14.3 Transport hazard class(es): 3
14.4 Packing group: III
14.5 Environmental hazards: MARINE POLLUTANT
14.6 Special precautions for user: Not applicable
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: Not applicable

SECTION 15 REGULATORY INFORMATION
SARA 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

REGULATORY LISTS SEARCHED:
4 I1=IARC Group 1
15=SARA Section 313

Page 7 of 9
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
REGULATORY LISTS SEARCHED:
02=EU Directive 90/394/EEC: Carcinogens at work.
03=EU Directive 92/85/EEC: Pregnant or breastfeeding workers.
04=EU Directive 96/82/EC (Seveso I): Article 9.
05=EU Directive 96/82/EC (Seveso I): Articles 6 and 7.
06=EU Directive 98/24/EC: Chemical agents at work.
08=EU Regulation EC No. 689/2008: Annex 1, Part 1.
09=EU Regulation EC No. 689/2008: Annex 1, Part 2.
10=EU Regulation EC No. 689/2008: Annex 1, Part 3.
12=EU REACH, Annex XVII: Restrictions on manufacture, placing on the market and use of certain dangerous substances, mixture & article.
The following components of this material are found on the regulatory lists indicated.
Kerosine (petroleum) 06
Naphthalene 03, 04, 05, 06
CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), KECI (Korea), PICCS (Philippines), TSCA (United States).

15.2 Chemical safety assessment
No chemical safety assessment.

SECTION 16 OTHER INFORMATION
Full text of R-phrases:
R10; Flammable.
R22; Harmful if swallowed.
R38; Irritating to skin.
R40; Limited evidence of a carcinogenic effect.
R50/53; Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53; Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65; Harmful: may cause lung damage if swallowed.
R66; Repeated exposure may cause skin dryness or cracking.
R67; Vapors may cause drowsiness and dizziness.

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:
TLV - Threshold Limit Value TWA - Time Weighted Average
STEL - Short-term Exposure Limit PEL - Permissible Exposure Limit
CVX - Chevron CAS - Chemical Abstract Service Number
NQ - Not Quantifiable

References:
EU Regulation 1907/2006
NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet. Adequate training and instruction should be given by you to your employees and affected personnel. Appropriate warnings and safe handling procedures should be provided by you to handlers and users. Additionally, the user should review this information, satisfy itself as to its suitability and completeness, and pass on the information to its employees or customers in accordance with the applicable federal, state, provincial or local hazard communication requirements. This SDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the fitness for use of the material, or the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, vendor neither assumes nor retains any responsibility for any damage or injury resulting from abnormal use, from any failure to adhere to appropriate practices, or from any hazards inherent in the nature of the material. Moreover, unless an employee or a customer accesses or receives a SDS directly from the company, there is no assurance that a document obtained from alternate sources is the most currently available SDS. The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Completed by Clark PTP Staff    No Annex