SAFETY DATA SHEET

Kerosine (petroleum) (CAS 8008-20-6)

The safety data sheet is in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

Date issued	27.01.2020

1.1. Product identifier

Product name	Kerosine (petroleum) (CAS 8008-20-6)
Synonyms	Jet A1, jet fuel, kerosine
REACH Reg. No.	01-2119485517-27
CAS No.	8008-20-6
EC No.	232-366-4

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

Product group	Fuel adapted to aircraft
Use of the substance / preparation	Distribution of substance, industrial Formulation & (re) packing of the substances and mixtures, industrial Use as a fuel, industrial Use as a fuel, professional
Uses advised against	Applications that are not registered and risk assessed.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name	St1 Sverige AB
Postal address	Box 1029
Postcode	SE-172 21
City	Sundbyberg
Country	Sweden
Telephone number	+46 (0) 31 744 6000
Email	Supply-Sweden@st1.se
Website	www.st1.se

1.4. Emergency telephone number

Emergency telephone	Telephone number: 111 (NHS) Description: For poisoning emergencies (UK) Telephone number: 112 Description: Within Sweden: Ask for Poison Information

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]	Flam. Liq. 3; H226 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411
Substance / mixture hazardous properties	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.

2.2. Label elements

Hazard pictograms (CLP)

Composition on the label	Kerosine (petroleum)
Signal word	Danger
Hazard statements	H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H336 May cause drowsiness or dizziness. H411 Toxic to aquatic life with long lasting effects.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 Wear protective gloves / protective clothing / eye protection / face protection. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician. P331 Do NOT induce vomiting. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P391 Collect spillage.

2.3. Other hazards

PBT / vPvB

The substance does not meet current criteria for PBT (Persistent, bioaccumulative and toxic) or vPvB (very persistent and very bioaccumulative).

Physicochemical effects

Liquid evaporates quickly and can ignite leading to a flash fire, or an explosion in a confined space.
Vapour in the headspace of tanks and containers may ignite and explode at temperatures exceeding auto-ignition temperature, where vapour concentrations are within the flammability range.
Electrostatic charges may be generated during handling. Electrostatic discharge may cause fire. May ignite on surfaces at temperatures above auto-ignition temperature.

SECTION 3: Composition / information on ingredients

3.1. Substances

Substance	Identification	Classification	Contents	Notes
Kerosine (petroleum)	CAS No.: 8008-20-6 EC No.: 232-366-4 REACH Reg. No.: 01-2119485517-27	Flam. Liq. 3; H226 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411	100 %	

Remarks, substance

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.

Substance comments

See section 16 for explanation of hazard statements (H) listed above.

SECTION 4: First aid measures

4.1. Description of first aid measures

General

Emergency telephone number: see section 1.4.

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact

Immediately remove contaminated clothing. Wash skin thoroughly with soap and water for several minutes. Consult a doctor if symptoms should occur.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Rest eyes for 30 minutes. Get medical attention if any discomfort continues.

Ingestion

Rinse mouth thoroughly. DO NOT induce vomiting if swallowed chemical is dissolved in petroleum-based material. Danger of aspiration and development of chemical pneumonia. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention immediately!

4.2. Most important symptoms and effects, both acute and delayed

Acute symptoms and effects	Inhalation: Solvent vapors may be harmful and overexposure may cause headaches, nausea, vomiting, and intoxication. Skin contact: The chemical irritates the skin and can cause itching, burning and redness. Penetrates the skin and in casaes of extensive skin contact, the same symptoms as at inhalation can occur. Eye contact: Spray and vapor may cause burning in the eyes. May cause temporary eye irritation. Ingestion: Ingestion: Poisoning symptoms such as headaches, fatigue, shortness of breath may occur. Symptoms such as coughing, breathing difficulties, vomiting or lethargy may indicate chemical pneumonitis.
Delayed symptoms and effects	Symptoms of chemical pneumonia may occur within 24 hours of difficulty breathing and coughing.

4.3. Indication of any immediate medical attention and special treatment needed

Medical monitoring for delayed effects	Delayed effects, such as symptoms of chemical pneumonia after aspiration, should be medically monitored.
Other information	Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	In case of major fire and large quantities: Foam. Water spray, fog or mist. Small fires: Powder. Carbon dioxide (CO2). Sand or earth are suitable in small fires.
Improper extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	Combustible liquid. Static accumulator: This product may accumulate static electricity. This may cause fire. Can form explosive gas-air mixtures. The product floats and can be reignited to burn on water surface. May travel considerable distance to source of ignition and flash back. Vapours are heavier than air and may spread near ground to sources of ignition.
Hazardous combustion products	May include, but is not limited to: Carbon dioxide (CO2). Carbon monoxide (CO). Oxides of sulphur (SOx). Hydrocarbons. Unspecified organic compounds.

5.3. Advice for firefighters

Personal protective equipment	Firefighters who may be exposed to smoke or thermal decomposition products shall wear all available personal protective equipment (PPE) and SCBA mask.
Other information	If there is no risk involved, move the containers to a safe place. If not possible, cool with water from a safe position. Extinguishing water must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures

Evacuate area. Provide adequate ventilation.
Stop leak if safe to do so. Eliminate all ignition sources if safe to do so.
If spill is large contact fire department immediately, dial 999 or 112.

Personal protection measures

Avoid inhalation of vapours and contact with skin and eyes. Use protective equipment as referred to in section 8.

6.2. Environmental precautions

Environmental precautionary measures

Do not allow to enter into sewer, water system or soil.
Immediately notify the local authorities about any damage.
Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex 1 Regulation 26.

6.3. Methods and material for containment and cleaning up

Clean up

Remove ignition sources and work with non-sparking tools.
Small Spillages:
Collect with absorbent, non-combustible material into suitable containers.
Proposals for inert materials: sand, kieselguhr, universal binder.
Collect in a suitable container and dispose as hazardous waste according to section 13.
Large Spillages:
For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water.

6.4. Reference to other sections

Other instructions

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling

Provide adequate ventilation. Local exhaust is recommended.
Avoid inhalation of vapours and contact with skin and eyes. Use protective equipment as referred to in section 8.
Risk for slippery floors and tools if spilled out. Risk of vapour concentration on the floor and in low-lying areas.

Protective safety measures

Safety measures to prevent fire

Smoking and naked flames and other ignition sources are prohibited.
Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Take precautionary measures against static discharges.
Ground / bond container and receiving equipment.

	Use only non-sparking tools. Use explosion-proof electrical / ventilating / lighting / / equipment.
Additional information	Product transfer: Avoid splash filling. Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling (for large storage tanks) before opening hatches or manholes. Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling.
Advice on general occupational hygiene	Do not eat, drink or smoke during work. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage	Storage in drums and in small containers: Drums should be stacked to a maximum of 3 high. Use properly labelled and closeable containers. Take suitable precautions when opening sealed containers, as pressure can build up during storage. Tank storage: Tanks must be specifically designed for use with this product. Bulk storage tanks should be diked (bunded). Locate tanks away from heat and other sources of ignition. The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Vapours from tanks should not be released to atmosphere. Breathing losses during storage should be controlled by a suitable vapour treatment system.

Conditions for safe storage

Packaging compatibilities	Recommended materials: For containers, or container linings use carbon steel and low alloy steel. Aluminium may also be used for applications where it does not present an unnecessary fire hazard. For container linings the following may also be used: Unplastisized polyvinyl chloride (U-PVC), Fluoropolymers (PTFE), Polyvinylidenefluoride (PVDF), Polyetheretherketone (PEEK), Polyamide (PA-11). For seals and gaskets use: Fluoroelastomer (FKM), Viton A, and Viton B, Nitrile butadiene (NBR), Buna-N. For coating (paint) materials use: High build, amine adduct-cured epoxy. Unsuitable materials: Polyethylene (PE, HDPE), Polypropylene (PP), Polymethyl methacrylate (PMMA), Acrylonnitrile butadiene styrene (ABS), Natural rubber (NR), Ethylene Propylene (EPDM, Polychloroprene (CR) – Neoprene, Butyl (IIR), Chlorosulphonated polyethylene (CSM), e.g. Hypalon.
Advice on storage compatability	Keep away from: Strong oxidizing agents. Food and feed.

7.3. Specific end use(s)

Specific use(s)	See section 1.2. See exposure scenario.

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Other Information about threshold limit values

ACGIH TWA [Non-aerosol]: 200 mg/m³ (Kerosine)
Notaton: Application restricted to conditions in which there are negligible aerosol exposures. As total hydrocarbon vapor.

DNEL / PNEC

DNEL

Comments: No data available

PNEC

Comments: Substance is a hydrocarbon with a complex, unknown or variable composition. Conventional methods of deriving PNECs are not appropriate and it is not possible to identify a single representative PNEC for such substances.

DMEL

Comments: No data available

8.2. Exposure controls

Precautionary measures to prevent exposure

Technical measures to prevent exposure

Explosion-proof general and local exhaust ventilation.
Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of vapours.
The personal protective equipment must be CE-marked and the latest version of the standards shall be used. The protective equipment and the specified standards recommended below are only suggestions, and should be selected on advice from the supplier of such equipment.
A risk assessment of the work place/work activities (the actual risk) may lead to other control measures. The protection equipment's suitability and durability will depend on application.

Eye / face protection

Eye protection equipment

Description: Wear approved chemical safety goggles where eye exposure is reasonably probable.
Reference to relevant standard: EN 166 (Personal eye-protection. Specifications).

Additional eye protection measures

Eye wash facilities should be available at the work place. Either a fixed eye wash facility connected to the drinking water (preferably warm water) or a portable disposable unit.

Hand protection

Suitable materials

Nitrile.
For incidental contact/splash protection, Neoprene, PVC gloves may be suitable.

Breakthrough time

Comments: Nitrile: > 240 minutes.

Thickness of glove material

Comments: Glove thickness must be chosen in consultation with the glove supplier.

Hand protection equipment

Description: Use protective gloves that are suitable for the application. The gloves abilities may vary among the different glove manufacturers.

	Reference to relevant standard: BS-EN 374 (Protective gloves against chemicals and micro-organisms). BS-EN 420 (Protective gloves. General requirements and test methods).
Additional hand protection measures	Gloves must only be worn on clean hands. Wash promptly with soap & water if skin becomes contaminated.

Skin protection

Recommended protective clothing	Description: At risk of splashing: Wear impervious protective clothing, gloves, apron and boots.
Additional skin protection measures	Emergency shower should be available at the workplace. Remove contaminated clothing and wash the skin thoroughly with soap and water after work. Wash contaminated clothing before reuse.

Respiratory protection

Recommended respiratory protection	Description: In case of insufficient ventilation, use respirator with A filter against solvent vapors. At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. Reference to relevant standard: EN 14387 (Respiratory protective devices. Gas filter(s) and combined filter(s). Requirements, testing, marking).

Appropriate environmental exposure control

Environmental exposure controls	Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour. Do not allow to enter into sewer, water system or soil.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Colour	Colourless to pale yellow.
Odour	Hydrocarbon.
Odour limit	Comments: Data lacking.
pH	Comments: Not relevant.
Melting point / melting range	Value: < -47 °C
Boiling point / boiling range	Value: 150 – 300 °C
Flash point	Value: > 38 °C
Evaporation rate	Comments: Data lacking.
Flammability	Not relevant.
Explosion limit	Value: 1 – 6 vol%
Vapour pressure	Value: < 1 hPa

	Temperature: 37,8 °C
Vapour density	Value: > 1 Comments: Air=1.
Density	Value: 800 -803 kg/m³ Temperature: 15 °C
Solubility	Medium: Water Comments: Insoluble.
Partition coefficient: n-octanol/ water	Comments: Data lacking.
Auto-ignition temperature	Value: > 200 °C
Decomposition temperature	Comments: Data lacking.
Viscosity	Value: ≤ 8 mm2/s Temperature: – 20 °C Type: Kinematic
Explosive properties	Not explosive.
Oxidising properties	Not oxidizing.

9.2. Other information

Other physical and chemical properties

Comments	No further information is available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Oxidises on contact with air.

10.2. Chemical stability

Stability	Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Arise in contact with incompatible materials (see section 10.5) and/or under inappropriate conditions (see section 10.4). Reacts violently with strong oxidizing components. Can form explosive gas-air mixtures.

10.4. Conditions to avoid

Conditions to avoid	Heat, sparks or open flame. Take precautionary measures against static discharge.

10.5. Incompatible materials

Materials to avoid	Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products	None under normal conditions. See also section 5.2.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	Effect tested: LD50 Route of exposure: Oral Value: > 5000 mg/kg Species: Rat Effect tested: LD50 Route of exposure: Dermal Value: > 2000 mg/kg Species: Rabbit Effect tested: LC50 Route of exposure: Inhalation. Duration: 4 hour(s) Value: > 5 mg/l Species: Rat

Other information regarding health hazards

Assessment of acute toxicity, classification	Based on available data, the classification criteria are not met.
Assessment of skin corrosion / irritation, classification	Irritating to skin.
Assessment of eye damage or irritation, classification	Based on available data, the classification criteria are not met.
Assessment of respiratory sensitisation, classification	Based on available data, the classification criteria are not met.
Assessment of skin sensitisation, classification	Based on available data, the classification criteria are not met.
Assessment of germ cell mutagenicity, classification	Based on available data, the classification criteria are not met.
Assessment of carcinogenicity, classification	Based on available data, the classification criteria are not met.
Assessment of reproductive toxicity, classification	Based on available data, the classification criteria are not met.
Assessment of specific target organ toxicity - single exposure, classification	May cause drowsiness or dizziness.
Assessment of specific target organ toxicity - repeated exposure, classification	Based on available data, the classification criteria are not met.
Assessment of aspiration hazard, classification	May be fatal if swallowed and enters airways.

Symptoms of exposure

In case of ingestion	Ingestion may cause the same symptoms as by inhalation. Symptoms such as coughing, breathing difficulties, vomiting or lethargy may indicate chemical pneumonitis.
In case of skin contact	Irritates the skin. May cause redness, stinging and itching.
In case of inhalation	Solvent vapors may be harmful and overexposure may cause headaches, nausea, vomiting, and intoxication.
In case of eye contact	May cause temporary eye irritation. May cause stinging and redness.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	Toxic to aquatic life with long lasting effects. Acute toxicity to fish, aquatic invertebrates and algae: Expected to be toxic, LL/EL/IL50 1-10 mg/l Acute toxicity to micro organisms: Not expected to be toxic, LL/EL/IL50 >100 mg/l Chronic toxicity to fish: NOEC/NOEL expected to be > 0,01 – ≤ 0,1 mg/l (based on modelled data) Chronic toxicity to aquatic invertebrates: NOEC/NOEL expected to be > 0,1 – ≤ 1,0 mg/l (based on modelled data)

12.2. Persistence and degradability

Persistence and degradability, comments	The product is potentially degradable. Volatile solvents are rapidly oxidized by photochemical reaction in air.

12.3. Bioaccumulative potential

Bioaccumulative potential	Contains components which have bioaccumulative potential.

12.4. Mobility in soil

Mobility	Floats on water. May contaminate soil and groundwater.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This substance is not classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects, comments	Forms an oil film on water surfaces that may harm organisms in the water and disrupt oxygen transport in the boundary layer between air and water.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Appropriate methods of disposal for the chemical	Recover and reclaim or recycle, if practical. Disposed of as hazardous waste by approved contractor. The waste code (EWC-Code) is intented as a guide. The code must be chosen by the user, if the use differs from the one mentioned below.
EWC waste code	EWC waste code: 130701 fuel oil and diesel Classified as hazardous waste: Yes EWC waste code: 130703 other fuels (including mixtures) Classified as hazardous waste: Yes
Other information	Send to drum recoverer or metal reclaimer. Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard if heated above the flash point. Do not puncture, cut or weld uncleaned drums. Do not pollute the soil, water or environment with the waste container. Comply with any local recovery or waste disposal regulations.

SECTION 14: Transport information

14.1. UN number

ADR/RID/ADN	1863
IMDG	1863
ICAO/IATA	1863

14.2. UN proper shipping name

Proper shipping name English ADR/RID/ADN	FUEL, AVIATION, TURBINE ENGINE
ADR/RID/ADN	FUEL, AVIATION, TURBINE ENGINE
IMDG	FUEL, AVIATION, TURBINE ENGINE
ICAO/IATA	FUEL, AVIATION, TURBINE ENGINE

14.3. Transport hazard class(es)

ADR/RID/ADN	3
Classificaton code ADR/RID/ ADN	F1
IMDG	3
ICAO/IATA	3

14.4. Packing group

ADR/RID/ADN	III

IMDG	III
ICAO/IATA	III

14.5. Environmental hazards

IMDG Marine pollutant	Yes

14.6. Special precautions for user

Special safety precautions for user	Not allowed to be loaded with packages labeled with orange label, ie 1, 1.4, 1.5 and 1.6.

14.7. Maritime transport in bulk according to IMO instruments

Additional information

Hazard label ADR/RID/ADN	3
Hazard label IMDG	3
Hazard label ICAO/IATA	3
Additional information	MARPOL 73/78 Annex I rules apply for bulk shipments by sea. MARPOL 73/78 Annex II not applicable.

ADR/RID Other information

Tunnel restriction code	D/E
Transport category	3
Hazard No.	30

IMDG Other information

EmS	F-E, S-E

SECTION 15: Regulatory information

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

References (laws/regulations)	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP-regulation) with later amendments. Regulation (EC) No 1907/2006 on the registration, evaluation, authorization and restriction of chemicals (REACH Regulation), with later amendments. European Waste Catalogue and Hazardous Waste List Dangerous Goods regulations Council Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances (Seveso II), with later amendments.

15.2. Chemical safety assessment

Chemical safety assessment performed	Yes

SECTION 16: Other information

Supplier's notes

The information contained in this SDS must be made available to all those who handle the product.
Detta dokument innehåller viktig information för att åstadkomma säker förvaring, hantering och användning av denna produkt. Informationen skall delges den person i din organisation som är ansvarig för säkerhetsfrågor.

List of relevant H-phrases (Section 2 and 3)

H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

Recommended restrictions on use

This product is not to be used as a solvent or cleaning agent; for lighting or brightening fires; as a skin cleanser.
This product is intended for use in closed systems only.

Abbreviations and acronyms used

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
DNEL: Derived No Effect Level
EWC: European Waste Code (a code from the EU's common classification system for waste)
EL50: The effective concentration of substance (slightly soluble) that causes 50% of the maximum response.
IATA: The International Air Transport Association
ICAO: The International Civil Aviation Organisation
IMDG: The International Maritime Dangerous Goods Code
LC50: Median concentration lethal to 50% of a test population.
LD50: Lethal dose, is the amount of a substance given to a group of test animals, which causes the death of 50%.
LL50: Lethal level: loading rate that kills 50% of exposed organisms.
NOEC: No Observable Effect Concentration.
NOEL: No Obserced Effect Level. The highest tested dose or exposure level at which, in a study, no statistically significant effect is observed in the exposed population compared with an appropriate control group.
PNEC: Predicted No Effect Concentration
RID: The Regulations concerning the International Carriage of Dangerous Goods by Rail

Information added, deleted or revised

Layout changed.

Checking quality of information

This SDS is quality controlled by Kiwa Teknologisk Institutt in Norway, certified according to the Quality Management System requirements specified in ISO 9001:2015.

Version

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Prepared by

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Exposure scenario

1. Distribution of substance, industrial.pdf
2. Formulation & (re)packing of substances and mixtures, industrial.pdf
3. Use as a fuel, industrial.pdf
4. Use as a fuel, professional.pdf