Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 02.09.2011 *Version number 1* *Revision: 02.09.2011*

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

· **Product identifier**

· **Trade name: Jet A-1**
· **Relevant identified uses of the substance or mixture and uses advised against**
· **Application of the substance / the preparation** Fuel/Analyse

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
PAC Walter Herzog GmbH
Badstrasse 3-5
97922 Lauda-Königshofen
Tel: +49 (0)9343.640-0
www.paclp.com

· **Informing department:**
Tel: +49 (0)9343.640-175
Research & Development
· **Emergency telephone number:**
Giftnotruf Berlin
Tel. +49 (0)30 30686 790 Helpdesk in German and in English

2 Hazards identification

· **Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**


GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.


GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.


GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.


GHS07

Skin Irrit. 2 H315 Causes skin irritation.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**


Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.


Xi; Irritant

R38: Irritating to skin.

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N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R10: Flammable.

· ***Information concerning particular hazards for human and environment:***
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· ***Classification system:***
The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

· ***Label elements***

· ***Labelling according to EU guidelines:***
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

· ***Code letter and hazard designation of product:***


Xn Harmful
N Dangerous for the environment

· ***Hazard-determining components of labelling:***
Kerosine (petroleum), hydrodesulfurized
Kerosine (petroleum), sweetened
Kerosine (petroleum)

· ***Risk phrases:***
10 Flammable.
38 Irritating to skin.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
65 Harmful: may cause lung damage if swallowed.

· ***Safety phrases:***
23 Do not breathe fumes/aerosol.
36/37 Wear suitable protective clothing and gloves.
43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
57 Use appropriate container to avoid environmental contamination.
60 This material and its container must be disposed of as hazardous waste.
62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

· ***Other hazards***

· ***Results of PBT and vPvB assessment***

· ***PBT:*** Not applicable.

· ***vPvB:*** Not applicable.

3 Composition/information on ingredients

· ***Chemical characterization: Mixtures***

· ***Description:*** Mixture of mineroil oil raffinates and additives.

· ***Dangerous components:***

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CAS: 8008-20-6 EINECS: 232-366-4	Kerosine (petroleum) Xn R65; Xi R38; N R51/53 R10 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315	≤ 100%
CAS: 64742-81-0 EINECS: 265-184-9	Kerosine (petroleum), hydrodesulfurized Xn R65; Xi R38; N R51/53 R10 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315	≤ 100%
CAS: 91770-15-9 EINECS: 294-799-5	Kerosine (petroleum), sweetened Xn R65; Xi R38; N R51/53 R10 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315	≤ 100%

· ***Additional information*** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· ***Description of first aid measures***
· ***General information*** Instantly remove any clothing soiled by the product.
· ***After inhalation*** Supply fresh air; consult doctor in case of symptoms.
· ***After skin contact***
Instantly wash with water and soap and rinse thoroughly.
Consult a physician in case of prolonged disturbances.
An inadvertent high-pressure injection through the skin immediately requires medical aid.
· ***After eye contact***
Rinse opened eye for several minutes under running water.
In case of permanent aches and pains please go and see the doctor.
· ***After swallowing***
Rinse mouth and immediately consult physician.
Do not induce vomiting in order to prevent an invasion into the lungs.
· ***Information for doctor***
· ***Most important symptoms and effects, both acute and delayed***
Fever
Breathing difficulty
Coughing
wheezing
· ***Indication of any immediate medical attention and special treatment needed***
A symptomatic therapy is to be induced.

5 Firefighting measures

· ***Extinguishing media***
· ***Suitable extinguishing agents*** CO2, sand, extinguishing powder. Do not use water.
· ***For safety reasons unsuitable extinguishing agents*** Water.
· ***Special hazards arising from the substance or mixture***
Inhalation of combustion gases may cause serious health hazards.
Can form explosive gas-air mixtures.
· ***Advice for firefighters***
· ***Protective equipment:***
Do not inhale explosion gases or combustion gases.
Wear self-contained breathing apparatus.

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· ***Additional information*** Cool closed containers near by fire source with water.

6 Accidental release measures

· ***Personal precautions, protective equipment and emergency procedures***
Avoid contact with the product.
Keep ignition sources away - Do not smoke.
Wear protective equipment. Keep unprotected persons away.
· ***Environmental precautions:*** Do not allow to enter drainage system, surface or ground water.
· ***Methods and material for containment and cleaning up:***
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
· ***Reference to other sections***
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

7 Handling and storage

· ***Handling***
· ***Precautions for safe handling***
Do not inhale gases/vapours/aerosols.
Avoid contact with eyes and skin.
Don't eat, drink or smoke while working.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· ***Information about protection against explosions and fires:***
Fumes can combine with air to form an explosive mixture.
Provide good space ventilation.
Store it away from ignition sources or open fire.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

· ***Conditions for safe storage, including any incompatibilities***
· ***Storage***
· ***Requirements to be met by storerooms and containers:*** Seamless, smooth floor and walls.
· ***Information about storage in one common storage facility:***
Store away from foodstuffs.
Store away from oxidizing agents.
· ***Further information about storage conditions:***
Protect from direct sunlight.
Keep container tightly sealed.
· ***Specific end use(s)*** No further relevant information available.

8 Exposure controls/personal protection

· ***Control parameters***
· ***Components with limit values that require monitoring at the workplace:***
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· ***Additional information:*** The lists that were valid during the compilation were used as basis.

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· ***Exposure controls***
· ***Personal protective equipment***
· ***General protective and hygienic measures***
Keep away from foodstuffs, beverages and food.
Wash hands during breaks and at the end of the work.
· ***Breathing equipment:***
In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.
· ***Protection of hands:***
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· ***Material of gloves***
Nitrile rubber, NBR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· ***Penetration time of glove material***
In case of a layer thickness of 0.4 mm the penetration time is longer than 480 minutes.
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· ***Eye protection:*** Tightly sealed safety glasses.

9 Physical and chemical properties

· ***Information on basic physical and chemical properties***	
· ***General Information***	
· ***Appearance:***	
· ***Form:***	Fluid
· ***Colour:***	Clear
· ***Odour:***	Characteristic
· ***Odour threshold:***	Not determined.
· ***pH-value:***	Not applicable.
· ***Change in condition***	
· ***Melting point/Melting range:***	Not determined
· ***Boiling point/Boiling range:***	145 - 300℃
· ***Flash point:***	> 38℃
· ***Inflammability (solid, gaseous)***	Not applicable.
· ***Ignition temperature:***	> 200℃
· ***Decomposition temperature:***	Not determined.
· ***Self-inflammability:***	Product is not selfigniting.
· ***Danger of explosion:***	Product is not explosive. However, formation of explosive air/steam mixtures is possible.
· ***Critical values for explosion:***	
· ***Lower:***	0.6 Vol %
· ***Upper:***	6.5 Vol %

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· ***Vapour pressure at 20°C:***	< 10 hPa
· ***Density at 15°C***	775 - 840 kg/m³
· ***Evaporation rate***	Not determined.
· ***Solubility in / Miscibility with***	
· ***Water:***	Not miscible or difficult to mix
· ***Segregation coefficient (n-octanol/water):***	Not determined.
· ***Viscosity:***	
· ***dynamic:***	Not determined.
· ***kinematic at 20°C:***	< 3 mm2/s
· ***Other information***	No further relevant information available.

10 Stability and reactivity

· ***Reactivity***
· ***Chemical stability***
· ***Thermal decomposition / conditions to be avoided:***
No decomposition if used according to specifications.
· ***Possibility of hazardous reactions*** No dangerous reactions known
· ***Conditions to avoid*** No further relevant information available.
· ***Incompatible materials:*** No further relevant information available.
· ***Hazardous decomposition products:***
None in case of intended use and storage in compliance with instructions.

11 Toxicological information

· ***Information on toxicological effects***
· ***Acute toxicity:***
· ***Primary irritant effect:***
· ***on the skin:*** Slightly irritant
· ***on the eye:*** No irritant effect.
· ***Sensitization:*** No sensitizing effect known.
· ***Additional toxicological information:***
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
Smallest amounts which can get into the lungs by means of swallowing or subsequent vomiting can cause a pulmonary oedema or pneumonia.
Irritant

12 Ecological information

· ***Toxicity***
· ***Acquatic toxicity:*** No further relevant information available.
· ***Persistence and degradability*** No further relevant information available.
· ***Other information:*** There are no data available about the preparation.
· ***Behaviour in environmental systems:***
· ***Components:***
A product that has flown out can lead to the formation of a film on the water surface which reduces the oxygen exchange and results in the organisms dying-off.
· ***Bioaccumulative potential*** Low potential for bioaccumulation.
· ***Mobility in soil*** No further relevant information available.

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· ***Additional ecological information:***
· ***General notes:***
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil.
· ***Results of PBT and vPvB assessment***
· ***PBT:*** Not applicable.
· ***vPvB:*** Not applicable.
· ***Other adverse effects*** No further relevant information available.

13 Disposal considerations

· ***Waste treatment methods***
· ***Recommendation***
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
The waste code numbers mentioned are recommendations based on the probable use of the product.

· ***European waste catalogue***	
13 00 00	OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in chapters 05, 12 and 19)
13 07 00	wastes of liquid fuels
13 07 03*	other fuels (including mixtures)

· ***Uncleaned packagings:***
· ***Recommendation:*** Disposal must be made according to official regulations.

14 Transport information

· ***UN-Number***
· ***ADR, IMDG, IATA*** UN1223

· ***UN proper shipping name***
· ***ADR*** 1223 KEROSENE, ENVIRONMENTALLY HAZARDOUS
· ***IMDG, IATA*** KEROSENE

· ***Transport hazard class(es)***

· ***ADR***

· ***Class*** 3 (F1) Flammable liquids.
· ***Label*** 3

· ***IMDG***

· ***Class*** 3 Flammable liquids.

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· ***Label***	3
· ***IATA***	
	
· ***Class***	3 Flammable liquids.
· ***Label***	3
· ***Packing group***	
· ***ADR, IMDG, IATA***	III
· ***Environmental hazards:***	
· ***Marine pollutant:***	No Symbol (fish and tree)
· ***Special marking (ADR):***	Symbol (fish and tree)
· ***Special precautions for user***	Warning: Flammable liquids.
· ***Kemler Number:***	30
· ***EMS Number:***	F-E,S-E
· ***Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code***	Not applicable.
· ***Transport/Additional information:***	
· ***ADR***	
· ***Tunnel restriction code***	D/E
· ***UN "Model Regulation":***	UN1223, KEROSENE, ENVIRONMENTALLY HAZARDOUS, 3, III

15 Regulatory information

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

· ***Designation according to EC guidelines:***
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

· ***Code letter and hazard designation of product:***

Xn Harmful
N Dangerous for the environment

· ***Hazard-determining components of labelling:***
Kerosine (petroleum), hydrodesulfurized
Kerosine (petroleum), sweetened
Kerosine (petroleum)

· ***Risk phrases:***
10 Flammable.
38 Irritating to skin.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
65 Harmful: may cause lung damage if swallowed.

· ***Safety phrases:***
23 Do not breathe fumes/aerosol.

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36/37 Wear suitable protective clothing and gloves.
43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
57 Use appropriate container to avoid environmental contamination.
60 This material and its container must be disposed of as hazardous waste.
62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

· ***National regulations***

· ***Water hazard class:*** Water hazard class 2 (Self-assessment): hazardous for water.
· ***Chemical safety assessment:*** A Chemical Safety Assessment has not been carried out.

16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· ***Relevant phrases***
H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H411 Toxic to aquatic life with long lasting effects.

R10 Flammable.
R38 Irritating to skin.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 Harmful: may cause lung damage if swallowed.

· ***Department issuing data specification sheet:***
This Material Safety Data Sheet has been drawn up in cooperation with:
DEKRA Industrial GmbH, Hanomagstr. 12, D-30449 Hannover,
Tel.: +49.511.42079-311, reach@dekra.com.
· ***Abbreviations and acronyms:***
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
GHS: Globally Harmonized System of Classification and Labelling of Chemicals