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[In accordance with the criteria of Regulation No 1907/2006 (REACH) as amended]

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

1.1 Product identifier

Aviation fuel WA UL 91

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

Relevant identified uses: fuel for spark-ignition aviation engines.

Uses advised against: not determined.

1.3 Details of the supplier of the safety data sheet

Manufacturer: **WARTER FUELS Spółka Akcyjna**

Address: ul. Chemików 5, 09-411 Płock, Poland

Telephone number: +48 24/ 365 33 07/+48 24/ 365 22 83

E-mail address for a competent person responsible for sds: biuro@theta-doradztwo.pl

1.4 Emergency telephone number

112

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Flam. Liq. 1 H224, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE. 3 H336, Aquatic Chronic 2 H411

Extremely flammable liquid and vapour. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure through inhalation. 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 and signal words



DANGER

Substances which influenced classification:

toluene, naphtha (petroleum), isomerization, naphtha (petroleum), light alkylate

Hazard statements

H224 Extremely flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H361d Suspected of damaging the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure through inhalation.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

- 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 mist/vapours.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P308+P313 IF exposed or concerned: Get medical advice/attention.

2.3 Other hazards

Components of this mixture do not meet criteria for PBT or vPvB in accordance with Annex XIII of REACH Regulation.

Section 3: Composition/information on ingredients**3.1 Substances**

Not applicable.

3.2 MixturesNaphtha (petroleum), light alkylate

Range of percentages: >30%
CAS number: 64741-66-8
EC number: 265-068-8
Index number: 601-021-00-3
Registration number: 01-2119463272-43-XXXX
Classification*: Flam. Liq. 2 H225, Aquatic Chronic 2 H411, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE. 3 H336

*taking into account the classification of notes P the product contains less than 0.1 w/w % of benzene

2-methylbutane

Range of percentages: ≤15%
CAS number: 78-78-4
EC number: 201-142-8
Index number: 601-085-00-2
Registration number: 01-2119475602-38-XXXX
Classification: Flam. Liq. 1 H224, Asp. Tox. 1 H304, STOT SE. 3 H336, Aquatic Chronic 2 H411


Additional classification: EUH066

Substance with a specific value at the Community level of the permissible concentration in the work environment.

Toluene

Range of percentages: < 30%
CAS number: 108-88-3
EC number: 203-625-9
Index number: 601-021-00-3
Registration number: 01-2119471310-51-XXXX
Classification: Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336

Substance with a specific value at the Community level of the permissible concentration in the work environment.

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Naphtha (petroleum), isomerization

Range of percentages: <30%
CAS number: 64741-70-4
EC number: 265-073-5
Index number: 649-277-00-5
Registration number: 01-2119480399-24-XXXX
Classification: Flam. Liq. 2 H225, Aquatic Chronic 2 H411, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336

*taking into account the classification of notes P the product contains less than 0.1 w/w % of benzene and < 1% n-hexane.

Xylene

Range of percentages: <5%
CAS number: 1330-20-7
EC number: 215-535-7
Index number: 601-022-00-9
Registration number: 01-2119555267-33-XXXX
Classification*: Flam. Liq. 3 H226, Acute Tox. 4 H332, Acute Tox. 4 H312, Skin Irrit. 2 H315

Substance with a specific value at the Community level of the permissible concentration in the work environment.

Full text of each relevant H phrases is given in section 16 of SDS.

Section 4: First aid measures

4.1 Description of first aid measures

Skin contact: remove contaminated clothing, immediately wash skin with plenty of water. If there was no irritation, it is advisable to use soap. If irritation occurs, consult a doctor.

Eye contact: consult a doctor if irritation occurs. Protect non- irritated eye, remove contact lenses. Rinse the irritated eye thoroughly with water for 10-15 minutes. Avoid strong stream of water - the risk of cornea damage.

Ingestion: do not induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person. Call a doctor immediately and show container or label.

Inhalation: consult a doctor immediately. Remove victim to fresh air, keep warm and at rest. Symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 24 hours.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms may be delayed.

Eye contact: redness, tearing, mild irritation.


Skin contact: in the case of frequent or prolonged contact may cause redness, dryness, inflammation, irritation.

Inhalation: respiratory tract irritation, sore throat and respiratory tract, headache and dizziness. In serious cases, after 24 hours there is inflammation of the bronchi and lungs. In severe cases, pulmonary edema or loss of consciousness may occur.

Ingestion: abdominal pain, nausea, vomiting, risk of pulmonary aspiration and chemical pneumonitis. In serious cases fainting may occur, hemolysis, disorders of internal organs.

4.3 Indication of any immediate medical attention and special treatment needed

Doctor makes a decision regarding further medical treatment after thoroughly examination of the injured.

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Section 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: CO₂ extinguishers, foam extinguishers, powder extinguishers with ABC/BC putting powder, ultimately water spray.

Unsuitable extinguishing media: water jet – risk of the propagation of the flame.

5.2 Special hazards arising from the substance or mixture

During the combustion, toxic gases may be generated, such as carbon monoxide, nitric oxides, organic vapors, etc. Avoid inhalation of combustion products that may pose a health risk.

5.3 Advice for firefighters

The security measures typical in case of fire. Do not stay in the danger zone without adequate fireresistant clothing and chemical-contained breathing apparatus with independent air circulation. Highly flammable. Fire or an increase of heating pressure in the tank create a risk of explosion. The affected area should be isolated and any action dangerous for human health or life should be avoided. Product vapors are heavier than air and accumulate in the lower parts of the premises. There is a high likelihood of an explosive mixture with air - if such a danger occurs, order an immediate evacuation. Containers exposed to fire should be cooled from a safe distance with water spray jet. Do not allow extinguishing water entering drains, surface water and groundwater .

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Restrict the access of outsiders to the area of accident pending the completion of cleaning operation. In case of large spills, isolate the affected area. Avoid direct contact with releasing product. Avoid breathing vapors. Use personal protective equipment. Avoid contact with eyes and skin. Provide adequate ventilation. Remove all sources of ignition, extinguish flames, announce a prohibition of smoking. Danger of slipping on spilled product.

6.2 Environmental precautions

In case of release of large amounts of the mixture, it is necessary to take appropriate steps to prevent it from spreading into the environment. Do not let the product to get through the sewage system. Notify relevant emergency services. Replace the contaminated soil.

6.3 Methods and material for containment and cleaning up

Large spill: isolate the place of liquid accumulation, pump away the collected liquid.

Small spill: collect with incombustible materials which absorb liquids (for example: sand, soil, universal firming agents, silica, vermiculite, etc.) and place in labeled containers. Treat the collected material as waste. Clean and ventilate the affected area.


6.4 Reference to other sections

Appropriate conduct with waste product – see section 13.
Personal protective equipment – see section 8.

Section 7: Handling and storage

7.1 Precautions for safe handling

Work in accordance with the principles of safety and hygiene. Avoid contact with eyes and skin. Before the break and after work wash your hands. Unused containers should be tightly closed. Ensure adequate ventilation in the premises where the product is used. Do not inhale the vapors. Keep away from the mouth. Do not allow to create the fumes in the concentrations higher than combustion limits. Eliminate sources of ignition - do not use open flames, no smoking, no sparking tools and clothing fabrics which are susceptible to electrostatic; protect the tanks from heat, install electrical equipment in explosion-proof technology.

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7.2 Conditions for safe storage, including any incompatibilities

Keep in certified, properly labeled, closed, steel containers in a cool, well ventilated warehouse. Keep on a hard impermeable surface, made of materials resistant to hydrocarbons. Tanks should be filled up to 90% of their volume. Smoking, eating, using open fire and sparks creating tools is banned. Keep away from oxidizing agents.

7.3 Specific end use(s)

Fuel for spark-ignition aviation engines.

Section 8: Exposure controls/personal protection

8.1 Control parameters

Specification	TWA 8 hour	STEL 15 min
toluene [CAS 108-88-3]	192 mg/m ³	384 mg/m ³ (skin)
2-methylbutane [CAS 78-78-4]	3 000 mg/m ³	-
xylene [1330-20-7]	221 mg/m ³	442 mg/m ³ (skin)

Legal Basis: Commission Directive 2000/39/EC, 2006/15/EC, 2009/161/EC, 2017/164/EC.

Please check any national occupational exposure limit values in your country for substance contained in this product.

8.2. Exposure controls

Work in accordance with the principles of safety and hygiene. During operation, do not eat, drink or smoke. Avoid contact with skin and eyes. Avoid breathing vapors or aerosols. Ensure good local and general ventilation at work stations – to ensure the maintenance of concentrations of hazardous components in the atmosphere below the exposure limit values. In case of spilling the substance on worker, showers and eye safety washers should be installed near the working place.



Hand and body protection

Use gloves resistant to chemicals. In case of short-term exposure wear the protective gloves with protection level 2 or higher (breakthrough time > 30 min). In case of long-term exposure wear the protective gloves with protection level 6 (breakthrough time > 480 min). Wear protective clothing.



When using protective gloves during work with chemical products, it should be noted that the efficacy levels and corresponding breakthrough times do not indicate actual times of protection at a particular workplace, because the protection can be affected by many factors, e.g. temperature, other substances etc. If there are any signs of degradation, damage or change in appearance (colour, flexibility, shape), it is recommended to replace the gloves with a new pair. Please follow the manufacturer's instructions, not only in terms of gloves' usage, but also in terms of their cleaning, maintenance and storage. It is also important to know how to take off the gloves in order to avoid hands contamination.

Eye/face protection

Wear protective goggles.

Respiratory protection

In case of vapors and aerosols formation, use the absorbing or absorbing and filtering equipment of an adequate protective class (class 1/ protection from gasses or vapors with a volume concentration lower than 0,1%; class 2/ protection from gasses or vapors with a volume concentration lower than 0,5%; class 3/ protection from gasses or vapors with a volume concentration up to 1%). If the concentration of oxygen is ≤19% and/or the maximum concentration of toxic substance in the air is ≥1,0% of volume the isolating equipment should be used.

Personal protective equipment must meet requirements of directive 89/686/CE. Employer is obliged to ensure equipment adequate to activities carried out, with quality demands, cleaning and maintenance.

Environmental exposure controls

Prevent direct runoff into drains / surface waters. Do not contaminate surface waters and drainage ditches, chemicals or used packaging. Any spills, particularly into surface water, should be reported to the appropriate authorities in accordance with national and local regulations. Export as chemical waste in accordance with national and local regulations.

Section 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

physical state:	liquid
colour:	colorless or light yellow, transparent
odour:	characteristic for organic solvents
odour threshold:	not determined
pH:	not determined
melting point/freezing point:	not determined
initial boiling point and boiling range:	>31°C
flash point:	< 0°C
evaporation rate:	not determined
flammability (solid, gas):	not applicable
upper/lower flammability or explosive limits:	1,4% vol./ 11,5%vol.
vapour pressure (37,8°C):	38-49 hPa
vapour density:	not applicable
density (15°C):	690-730 kg/m ³
solubility(ies):	does not dissolve in water, dissolves in organic solvents
partition coefficient: n-octanol/water:	not determined
auto-ignition temperature:	about 360°C
decomposition temperature:	not determined
explosive properties:	not display, vapours can form explosive mixture with air
oxidising properties:	not display
9.2 Other information	
Corrosive properties:	not display

Section 10: Stability and reactivity**10.1 Reactivity**

The product reacts with strong oxidizing agents. The product may soften some plastics.

10.2 Chemical stability

The product is stable under normal conditions.

10.3 Possibility of hazardous reactions

Dangerous reactions are not known. May form explosive mixtures with air.

10.4 Conditions to avoid

Avoid heat sources, elevated temperature, open flames, direct sunlight.

10.5 Incompatible materials


Strong oxidants.

10.6 Hazardous decomposition products

Unknown.

Section 11: Toxicological information**11.1 Information on toxicological effects**Toluene

LD ₅₀ (orally , rat)	636 mg.kg
LD ₅₀ (skin, rabbit)	12 124 mg/kg
LD ₅₀ (inhalation, rat)	4 000 ppm/4h

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Information concerning acute and/or delayed effects of exposure was specified on the base of classification of the product and/or toxicology testing and the manufacturer's knowledge and experience.

Acute toxicity

ATEmix (oral): > 2 000 mg/kg

ATEmix (skin): > 2 000 mg/kg

ATEmix (inhalation, vapour): > 5 mg/l

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

Skin corrosion/ irritation

Causes skin irritation. May cause drowsiness or dizziness.

Serious eye damage/ irritation

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

Respiratory or skin sensitisation

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

Germ cell mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

Suspected of damaging the unborn child.

STOT- single exposure

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

STOT- repeated exposure

May cause damage to organs through prolonged or repeated exposure through inhalation.

Aspiration hazard

May be fatal if swallowed and enters airways.

Health effects of acute exposure

Mucous membrane irritation, tearing, hyperemia, irritation of the respiratory tract, headache, dizziness, nausea, vomiting; with higher concentrations of vapor: abnormal coordination, confusion, unconsciousness. Acute, severe and even fatal aviation gasoline poisonings occur during cleaning tanks, storage tanks and transfer to another container. There is a risk of aviation gasoline penetration through the soaked clothing and skin into the system. Aviation gasoline damages internal organs, including bone marrow and liver. Sensitizes the cardiac muscle. Leads to respiratory paralysis.

Health effects of chronic exposure

Most frequent symptoms of chronic poisoning: upper respiratory inflammation and skin inflammation (dryness, redness, cracking). Symptoms that are observed: decreased appetite, general weakness and conjunctivitis, symptoms connected with central nervous system.

Section 12: Ecological information

12.1 Toxicity

Naphta (in general)

Toxicity to fish LC₅₀ 100 mg Pb/l (*Salmo gairdneri irideus*)

Toxicity to invertebrate EC₅₀ 70 mg /l (*Gammarus pulex*)


Toxicity to invertebrate EC₅₀ 80 mg /l (*Epeorus assimilis*)

Toxicity to invertebrate EC₅₀ 120 mg /l (*Tubifex tubifex*)

Toxicity to invertebrate EC₅₀ 55 mg /l (*Vorticella campanula*)

Toxicity to invertebrate EC₅₀ 60 mg /l (*Paramecium caudatum*)

Concentration leads to a distortion of anaerobic fermentation of sewage sludge: >400 mg/l

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Toluene

Toxicity to aquatic organisms LC50 70-420 mg/l
 Toxicity to daphnia EC50 270 mg/l (Daphnia magna)
 Toxicity to algae EC50 125-160 mg/l (Scenedesmus)

Mixture toxicity

Toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Ingredients are poorly degradable.

12.3 Bioaccumulative potential

Potential to bio-accumulate.

12.4 Mobility in soil

Insoluble in water, it floats on the surface. Product is mobile in soil. Mobility of components of the mixture in soil depends on the hydrophilic and hydrophobic properties and biotic and abiotic conditions of soil, including its structure, climatic conditions, seasons and soil organisms (mostly: bacteria, fungus, algae, invertebrates).

12.5 Results of PBT and vPvB assessment

Components of this mixture do not meet criteria for PBT or vPvB in accordance with Annex XIII of REACH Regulation.

12.6 Other adverse effects

The mixture is not classified as hazardous to the ozone layer. Consider other harmful effects of individual components of the mixture on the environment (e.g., endocrine disrupting potential, global warming potential).

Section 13: Disposal considerations

13.1 Waste treatment methods

Disposal methods for the product: dispose in accordance with applicable regulations. Do not introduce into drains. Residues store in sealed, steel containers. Wastes classify as hazardous waste.

Disposal methods for used packing: recycling or neutralizing should be done according to obligatory regulations for waste. Only completely emptied packagings can be recycled. Do not mix with other waste. The classification for this waste meets the requirements for the hazardous waste.

Legal basis: Directive 2008/98/EC, 94/62/EC.

Section 14: Transport information

14.1 UN numer (ONZ Number)

UN 1203



14.2 UN proper shipping name

ADR/RID

MOTOR SPIRIT


IMDG

MOTOR SPIRIT

ICAO/IATA

MOTOR SPIRIT



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14.3 Transport hazard class(es)

3

14.4 Packing group

II

14.5 Environmental hazards

According to ADR, RID, IMDG product is a threat to the environment.

14.6 Special precautions for user

Wear suitable protective clothing, gloves and eye / face protection in accordance with section 8.
Avoid ignition sources.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

Section 15: Regulatory information

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

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Text with EEA relevance).

Commission Regulation (EC) No 790/2009 of 10 August 2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures (Text with EEA relevance).

Commission Regulation (EU) No 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) (Text with EEA relevance).

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste.

15.2 Chemical safety assessment

Chemical safety assessment was performed for 3 substances contained in the mixture.


Section 16: Other information

Full text of indicated H phrases mentioned in section 3

H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin
H315	Causes skin irritation.
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking

Clarification of aberrations and acronyms

Acute Tox. 4	Acute toxicity cat. 4
Asp. Tox. 1	Aspiration hazard cat. 1

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Aquatic Chronic 2 Hazardous to the aquatic environment cat. 2
 Flam. Liq. 1 Flammable liquid cat. 1
 Flam. Liq. 2 Flammable liquid cat. 2
 Flam. Liq. 3 Flammable liquid cat. 3
 Repr. 2 Reproductive toxicity cat. 2
 Skin Irrit. 2 Skin irritation cat. 2
 STOT RE 2 Specific target organ toxicity — repeated exposure cat. 2
 STOT RE 3 Specific target organ toxicity — repeated exposure cat. 3

Trainings

Before commencing working with the product, the user should learn the Health & Safety regulations, regarding handling chemicals, and in particular, undergo a proper workplace training.

Drivers should be trained and should obtain proper certification in accordance with the requirements of ADR.

Other data

Classification was based on data on hazardous substances calculation method under the guidance of Regulation 1272/2008/EC (CLP).

Modifications: sections: 8, 9, 16
 Composed by: mgr inz. Anna Królak (on the basis of producer's data).
 Safety Data Sheet made by: „THETA” Doradztwo Techniczne

This SDS annuls and replaces all previous version SDS.

The information above is based on a current available data concerning the product, but also on the experience and knowledge in this field of the producer. They are neither a quality description of the product nor a guarantee of particular features. They are to be treated as aid to safety in transport, storage and usage of the product. That does not free the user from the responsibility of improper usage of the information above and also of improper compliance with the law norms in the field.