

## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/08/2019

Reviewed on 12/19/2018

### 1 Identification

**Product identifier**

**Trade name:** **Moto4**

**Article number:** 378417

**Application of the substance / the mixture** Hydrocarbon mixture to be used as a special fuel

**Details of the supplier of the safety data sheet**

**Manufacturer/Supplier:** Haltermann Carless Deutschland GmbH  
Schlengendeich 17  
D-21107 Hamburg, Germany  
Tel.: +49 40 333 18 0  
E-mail: MSDS-HCDE@h-c-s-group.com

**Information department:** Product Stewardship  
**Emergency telephone number:** Infraserv: +49 69 305 6418

### 2 Hazard(s) identification

**Classification of the substance or mixture**

Flam. Liq. 1 H224 Extremely flammable liquid and vapor.

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

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

Aquatic Acute 2 H401 Toxic to aquatic life.

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

**Label elements**
**GHS label elements**
**Hazard pictograms**

The product is classified and labeled according to the Globally Harmonized System (GHS).



GHS02 GHS07 GHS08 GHS09

**Signal word** Danger

**Hazard-determining components of labeling:**

Naphtha (petroleum), full-range alkylate, butane-contg. methylbutane  
2,2,4,6,6-Pentamethylheptane

**Hazard statements** H224 Extremely flammable liquid and vapor.  
H315 Causes skin irritation.  
H336 May cause drowsiness or dizziness.  
H304 May be fatal if swallowed and enters airways.  
H401 Toxic to aquatic life.  
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements** P301+P310 If swallowed: Immediately call a poison center/doctor.  
P321 Specific treatment (see on this label).

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P331 Do NOT induce vomiting.  
 P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:****NFPA ratings (scale 0 - 4)**

Health = 1  
 Fire = 4  
 Reactivity = 0

**HMIS-ratings (scale 0 - 4)**

Health = 1  
 Fire = 4  
 Reactivity = 0

**Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

### 3 Composition/information on ingredients

**Chemical characterization: Mixtures****Description:** Hydrocarbon mixture to be used as a special fuel**Dangerous components:**

CAS: 68527-27-5 Naphtha (petroleum), full-range alkylate, butane-contg. 50-100%

EINECS: 271-267-0 Flam. Liq. 1, H224; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3, H336; Aquatic Acute 2, H401

CAS: 78-78-4 methylbutane 10-25%

EINECS: 201-142-8 Flam. Liq. 1, H224; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H336

CAS: 13475-82-6 2,2,4,6,6-Pentamethylheptane 10-25%

EINECS: 236-757-0 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 4, H413

### 4 First-aid measures

**Description of first aid measures****General information:** Immediately remove any clothing soiled by the product.**After inhalation:** In case of unconsciousness place patient stably in side position for transportation.**After skin contact:** Immediately wash with water and soap and rinse thoroughly.

Immediately rinse with water.

**After eye contact:** Rinse opened eye for several minutes under running water.**After swallowing:** Do not induce vomiting; immediately call for medical help.**Information for doctor:****Most important symptoms and effects, both acute and delayed**

No further relevant information available.

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**Danger** Aspiration hazard

**Indication of any immediate medical attention and special treatment needed** No further relevant information available.

**5 Fire-fighting measures**

**Extinguishing media**

**Suitable extinguishing agents:** CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**For safety reasons unsuitable extinguishing agents:** Water with full jet

**Special hazards arising from the substance or mixture** The vapour is heavier than air, spreads along the ground and distant ignition is possible.

**Advice for firefighters**

**Protective equipment:** No special measures required.

**6 Accidental release measures**

**Personal precautions, protective equipment and emergency procedures** Keep away from ignition sources  
Wear protective equipment. Keep unprotected persons away.

**Environmental precautions:** Do not allow to enter sewers/ surface or ground water.  
Do not allow product to reach sewage system or any water course.  
Prevent seepage into sewage system, workpits and cellars.  
Inform respective authorities in case of seepage into water course or sewage system.

**Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.

**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 disposal information.

**Protective Action Criteria for Chemicals****PAC-1:**

78-78-4 methylbutane: 3000\* ppm

**PAC-2:**

78-78-4 methylbutane: 33000\*\*\* ppm

**PAC-3:**

78-78-4 methylbutane: 200000\*\*\* ppm

**7 Handling and storage**

**Handling:**

**Precautions for safe handling** Keep receptacles tightly sealed.  
Store in cool, dry place in tightly closed receptacles.

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Keep away from heat and direct sunlight.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.

**Information about protection  
against explosions and fires:**

Flammable gas-air mixtures may be formed in empty receptacles.  
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 receptacles:**

Store in a cool location.

**Information about storage in one  
common storage facility:**

Not required.

**Further information about  
storage conditions:**

Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.

**Storage class:**

3

**Specific end use(s)**

No further relevant information available.

**8 Exposure controls/personal protection****Additional information about  
design of technical systems:**

No further data; see item 7.

**Control parameters****Components with limit values  
that require monitoring at the  
workplace:**

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.  
At this time, the other constituents have no known exposure limits.

**78-78-4 methylbutane**

PEL Long-term value: 2950 mg/m<sup>3</sup>, 1000 ppm

TLV Long-term value: 2950 mg/m<sup>3</sup>, 1000 ppm

**Additional information:**

The lists that were valid during the creation were used as basis.

**Exposure controls****Personal protective equipment:****General protective and hygienic  
measures:**

Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the skin.  
Avoid contact with the eyes and skin.  
Do not ingest.

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<b>Breathing equipment:</b>	Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device. Filter AX
<b>Protection of hands:</b>	Use gloves of stable material (e.g. Nitrile) - if necessary tricoted to improve the wearability. Protective gloves The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
<b>Material of gloves</b>	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. Nitrile rubber, NBR > 0,38 mm
<b>Penetration time of glove material</b>	> 480 min (EN 374)
<b>Eye protection:</b>	Tightly sealed goggles
<b>Body protection:</b>	Protective work clothing

### 9 Physical and chemical properties

#### Information on basic physical and chemical properties

##### General Information

##### Appearance:

<b>Form:</b>	Fluid
<b>Color:</b>	Blue
<b>Odor:</b>	Characteristic
<b>Odor threshold:</b>	Not determined.
<b>pH-value:</b>	Not determined.

##### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	< 35 - 180 °C (95-356 °F)

**Flash point:** -56 °C (-68.8 °F)

**Flammability (solid, gaseous):** Not applicable.

**Decomposition temperature:** Not determined.

**Auto igniting:** Product is not selfigniting.

**Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

##### Explosion limits:

<b>Lower:</b>	1.1 Vol %
<b>Upper:</b>	6.0 Vol %

**Vapor pressure at 50 °C (122 °F):** < 95 kPa

**Density at 20 °C (68 °F):** 0.7 g/cm<sup>3</sup>

**Relative density** Not determined.

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<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Not miscible or difficult to mix.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Solvent content:</b>	
<b>VOC content:</b>	45.4 % 700.0 g/l / 5.84 lb/gl
<b>Other information</b>	No further relevant information available.

**10 Stability and reactivity**

<b>Reactivity</b>	No further relevant information available.
<b>Chemical stability</b>	
<b>Thermal decomposition / conditions to be avoided:</b>	No decomposition if used according to specifications.
<b>Possibility of hazardous reactions</b>	No dangerous reactions known.
<b>Conditions to avoid</b>	No further relevant information available.
<b>Incompatible materials:</b>	No further relevant information available.
<b>Hazardous decomposition products:</b>	No dangerous decomposition products known.

**11 Toxicological information****Information on toxicological effects****Acute toxicity:****LD/LC50 values that are relevant for classification:****78-78-4 methylbutane**

Oral LD50 &gt;2,000 mg/kg (rat) (OECD 401)

Inhalative LC50 /4 h &gt;25.3 mg/L (rat) (OECD 403)

**Primary irritant effect:****on the skin:** Irritant to skin and mucous membranes.**on the eye:** No irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological****information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

Inhalation of concentrated vapours as well as oral intake will lead to anaesthesia-like conditions and headache, dizziness, etc.

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**Trade name: Moto4****Carcinogenic categories****IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

**NTP (National Toxicology Program)**

None of the ingredients is listed.

**OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

**12 Ecological information****Toxicity****Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Ecotoxicological effects:****Remark:** Toxic for fish**Additional ecological information:****General notes:** Water hazard class 2 (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.  
Also poisonous for fish and plankton in water bodies.  
Toxic for aquatic organisms**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.**Uncleaned packagings:****Recommendation:** Disposal must be made according to official regulations.**14 Transport information****UN-Number****DOT, ADR, IMDG, IATA** UN1203**UN proper shipping name****DOT** Gasoline**ADR** 1203 MOTOR SPIRIT, ENVIRONMENTALLY HAZARDOUS**IMDG** MOTOR SPIRIT, MARINE POLLUTANT**IATA** MOTOR SPIRIT

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**Trade name: Moto4**
**Transport hazard class(es)**
**DOT**


<b>Class</b>	3 Flammable liquids
<b>Label</b>	3

**ADR**


<b>Class</b>	3 (F1) Flammable liquids
<b>Label</b>	3

**IMDG**


<b>Class</b>	3 Flammable liquids
<b>Label</b>	3

**IATA**


<b>Class</b>	3 Flammable liquids
<b>Label</b>	3

**Packing group**

DOT, ADR, IMDG, IATA	II
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**Environmental hazards:**

Product contains environmentally hazardous substances: Naphtha (petroleum), full-range alkylate

**Marine pollutant:**

Yes

**Special marking (ADR):**

Symbol (fish and tree)

**Special precautions for user**

Symbol (fish and tree)

**Danger code (Kemler):**

Warning: Flammable liquids

**EMS Number:**

33

**Stowage Category**

F-E,S-E

**Transport in bulk according to Annex II of MARPOL73/78**

E

**and the IBC Code**

Not applicable.



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**Trade name: Moto4****Transport/Additional information:****DOT****Quantity limitations**

On passenger aircraft/rail: 5 L

On cargo aircraft only: 60 L

**Remarks:**

Special marking with the symbol (fish and tree).

**ADR****Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**IMDG****Limited quantities (LQ)**

1L

**Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**UN "Model Regulation":**

UN 1203 MOTOR SPIRIT, 3, II, ENVIRONMENTALLY HAZARDOUS

**\*15 Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****Sara****Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

**Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

**TSCA (Toxic Substances Control Act):**

All ingredients are listed.

**Proposition 65****Chemicals known to cause cancer:**

None of the ingredients is listed.

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**Carcinogenicity categories****EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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### TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

### NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

#### Date of preparation / last

##### revision

02/08/2019 / 13

#### Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organisation  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
Flam. Liq. 1: Flammable liquids – Category 1  
Flam. Liq. 3: Flammable liquids – Category 3  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
Asp. Tox. 1: Aspiration hazard – Category 1  
Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2  
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2  
Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

\* Data compared to the previous version altered.