1. Identification

**Product identifier**
KaVo QUATTROcare plus Spray North America - Canada

**Product code:**
1.005.3844
1.005.4524

**Further trade names**
QUATTROcare plus Spray AMERICA+CANADA, KaVo Spray 2141, KaVo Spray 2141P

**Recommended use of the chemical and restrictions on use**

**Use of the substance/mixture**
The product is intended for professional use.

**Details of the supplier of the safety data sheet**
- **Company name:** Kaltenbach & Voigt GmbH
- **Street:** Bismarckring 39
- **Place:** D-88400 Biberach
- **Telephone:** +49 (0) 7351 56 0
- **e-mail:** sdb@kavo.com
- **Internet:** http://www.kavo.com/

**Emergency phone number:** +49 (0) 7351 56 4000 (24 h)

2. Hazard(s) identification

**Classification of the chemical**
- **Hazard categories:**
  - Flammable aerosols: Flam. Aerosol 1
- **Hazard Statements:**
  - Extremely flammable aerosol
  - Contains gas under pressure; may explode if heated

**Label elements**
- **Signal word:** Danger
- **Pictograms:**
  - Extremely flammable aerosol
  - Contains gas under pressure; may explode if heated

**Hazard statements**
- Extremely flammable aerosol
- Contains gas under pressure; may explode if heated

**Precautionary statements**
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Do not spray on an open flame or other ignition source.
- Pressurized container: Do not pierce or burn, even after use.
- Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

**Hazards not otherwise classified**
In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

3. Composition/information on ingredients

**Mixtures**
4. First-aid measures

**Description of first aid measures**

**General information**

Never give anything by mouth to an unconscious person or a person with cramps. Remove persons to safety.

**After inhalation**

Provide fresh air.

**After contact with skin**

Wash with plenty of water. Take off contaminated clothing and wash it before reuse.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water.

**After ingestion**

Rinse mouth immediately and drink plenty of water. Observe risk of aspiration if vomiting occurs.

**Most important symptoms and effects, both acute and delayed**

Headache, nausea, dizziness, fatigue, skin irritation

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

5. Fire-fighting measures

**Extinguishing media**

- **Suitable extinguishing media**
  - Carbon dioxide (CO2), Foam, Extinguishing powder

- **Unsuitable extinguishing media**
  - Full water jet.

**Specific hazards arising from the chemical**

- Extremely flammable. Vapours can form explosive mixtures with air.

**Special protective equipment and precautions for fire-fighters**

- In case of fire: Wear self-contained breathing apparatus.

**Additional information**

- Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Remove all sources of ignition. Provide adequate ventilation.

**Environmental precautions**

Do not allow uncontrolled discharge of product into the environment. Danger of explosion

**Methods and material for containment and cleaning up**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Treat the recovered material as prescribed in the section on waste disposal.

**Reference to other sections**

- Safe handling: see section 7
- Personal protection equipment: see section 8
- Disposal: see section 13
7. Handling and storage

Precautions for safe handling

Advice on safe handling
Do not pierce or burn, even after use.

Advice on protection against fire and explosion
Do not spray on naked flames or any incandescent material. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on storage compatibility
Do not store together with: Oxidising agent. Pyrophoric or self-heating substances.

Further information on storage conditions
Protect from frost. Protect against direct sunlight.

8. Exposure controls/personal protection

Control parameters

Exposure limits

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>f/cc</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-28-5</td>
<td>Butane: isobutane</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>TWA (8 h)</td>
<td>TLV</td>
</tr>
<tr>
<td>106-97-8</td>
<td>Butane: n-butane</td>
<td>1000</td>
<td>-</td>
<td>-</td>
<td>STEL (15 min)</td>
<td>TLV</td>
</tr>
<tr>
<td>75-28-5</td>
<td>Isobutane</td>
<td>800</td>
<td>1900</td>
<td>-</td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td>8012-95-1</td>
<td>Oil mist (mineral)</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td>8012-95-1</td>
<td>Oil mist, mineral</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
<tr>
<td>74-98-6</td>
<td>Propane</td>
<td>1000</td>
<td>1800</td>
<td>-</td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
<tr>
<td>106-97-8</td>
<td>n-Butane</td>
<td>800</td>
<td>1900</td>
<td>-</td>
<td>Asphyxiants</td>
<td>TLV</td>
</tr>
</tbody>
</table>

Additional advice on limit values

a no restriction
b End of exposure or end of shift
c at long term exposure: after several previous shifts
d before next shift

tWA (EC): time-weighted average
Y: A risk of reproductive effects needs not to be feared if the occupational exposure limit value (AGW) and the biological limit value (BGW) is kept
Z: A risk of reproductive effects cannot to be excluded if the occupational exposure limit value (AGW) and the biological limit value (BGW) is kept
Urine (U)
Whole blood (B)
Exposure controls

Protective and hygiene measures
Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink.

Eye/face protection
Wear eye/face protection.

Hand protection
The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection
Flame-retardant protective clothing. Wear anti-static footwear and clothing.

Respiratory protection
In case of inadequate ventilation wear respiratory protection.

9. Physical and chemical properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid (Aerosol)</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>light yellow</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic</td>
<td></td>
</tr>
<tr>
<td>pH-Value (at 20 °C):</td>
<td>not determined</td>
<td>DIN 19268</td>
</tr>
<tr>
<td>Changes in the physical state</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>- 40 °C</td>
<td></td>
</tr>
<tr>
<td>Sublimation point:</td>
<td>No information available.</td>
<td></td>
</tr>
<tr>
<td>Softening point:</td>
<td>No information available.</td>
<td></td>
</tr>
<tr>
<td>Flash point:</td>
<td>- 80 °C</td>
<td></td>
</tr>
<tr>
<td>Flammability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solid</td>
<td>not applicable</td>
<td></td>
</tr>
<tr>
<td>Gas</td>
<td>not applicable</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No information available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower explosion limits:</td>
<td>1 vol. %</td>
<td></td>
</tr>
<tr>
<td>Upper explosion limits:</td>
<td>11 vol. %</td>
<td></td>
</tr>
<tr>
<td>Ignition temperature:</td>
<td>No information available.</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solid</td>
<td>not applicable</td>
<td></td>
</tr>
<tr>
<td>Gas</td>
<td>not applicable</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not oxidizing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor pressure:</td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td>Density (at 20 °C):</td>
<td>0.853 g/cm³</td>
<td>DIN 51757</td>
</tr>
<tr>
<td>Bulk density:</td>
<td>No information available.</td>
<td></td>
</tr>
</tbody>
</table>
**Water solubility:** insoluble

**Solubility in other solvents**
not determined

**Partition coefficient:**
not determined

**Viscosity / dynamic:**
No information available.

**Viscosity / kinematic:**
15.5 mm²/s

**Vapour density:**
not determined

**Evaporation rate:**
not determined

**Other information**
Density: Data apply to the technically active substance.

pressure: - bar (20°C)

Odour threshold: not determined

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**10. Stability and reactivity**

**Reactivity**
Extremely flammable, Ignition hazard.

**Chemical stability**
Stability: Stable
The product is stable under storage at normal ambient temperatures.

**Possibility of hazardous reactions**
Hazardous reactions: May occur

**Conditions to avoid**
Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.
Vapours can form explosive mixtures with air.

**Incompatible materials**
No information available.

**Hazardous decomposition products**
No known hazardous decomposition products.

**Further information**
Do not mix with other chemicals.

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**11. Toxicological information**

**Information on toxicological effects**

**Route(s) of Entry**
Inhalation

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

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Exposure routes</th>
<th>Method</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>8042-47-5</td>
<td>White mineral oil (petroleum)</td>
<td>oral</td>
<td>LD50</td>
<td>&gt; 5000 mg/kg</td>
<td>Rat</td>
<td>Manufacturer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>&gt; 2000 mg/kg</td>
<td>Rabbit</td>
<td>Manufacturer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative (4 h) aerosol</td>
<td>LC50</td>
<td>&gt; 5000 mg/l</td>
<td>Rat</td>
<td>Manufacturer</td>
</tr>
</tbody>
</table>

Revision No: 2.0
USA - EN
Revision date: 05.08.2015
Irritation and corrosivity
Based on available data, the classification criteria are not met.

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

Specific target organ toxicity (STOT) - single exposure
Based on available data, the classification criteria are not met.

Severe effects after repeated or prolonged exposure
Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction
Based on available data, the classification criteria are not met.
No indication of human carcinogenicity.
No indications of human germ cell mutagenicity exist.
No indications of human reproductive toxicity exist.
Carcinogenicity (NTP): none
Carcinogenicity (IARC): Mineral oils, highly-refined is listed in group 3.
Carcinogenicity (OSHA): none

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

12. Ecological information

Ecotoxicity
The product is not: Ecotoxic.

Persistence and degradability
The product has not been tested.

Bioaccumulative potential
The product has not been tested.

Mobility in soil
The product has not been tested.

Other adverse effects
No information available.

Further information
Do not allow uncontrolled discharge of product into the environment.

13. Disposal considerations

Waste treatment methods
Advice on disposal
Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Contaminated packaging
Completely emptied packages can be recycled.

14. Transport information

US DOT 49 CFR 172.101
UN/ID number: UN 1950
Proper shipping name: Aerosols, flammable, (each not exceeding 1 L capacity)
Transport hazard class(es): 2.1
Hazard label: 2.1

Marine transport (IMDG)
UN number: UN 1950
UN proper shipping name: AEROSOLS
Transport hazard class(es): 2.1
Packing group: -
Hazard label: 2.1

Limited quantity: 1000 mL
Excepted quantity: E0
EmS: F-D, S-U

Air transport (ICAO)
UN number: UN 1950
UN proper shipping name: AEROSOLS, flammable
Transport hazard class(es): 2.1
Packing group: -
Hazard label: 2.1

Limited quantity Passenger: 30 kg G
Passenger LQ: Y203
Excepted quantity: E0
IATA-packing instructions - Passenger: 203
IATA-max. quantity - Passenger: 75 kg
IATA-packing instructions - Cargo: 203
IATA-max. quantity - Cargo: 150 kg

Environmental hazards
ENVIRONMENTALLY HAZARDOUS: no

Special precautions for user
Warning: Flammable gases.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

U.S. Regulations
National Inventory TSCA
White mineral oil (petroleum): Yes.
butane: Yes.
isobutane: Yes.
propane: Yes.

National regulatory information
SARA Section 311/312 Hazards:
Butane (106-97-8): Fire hazard
Propane (74-98-6): Fire hazard
Isobutane (75-28-5): Fire hazard
Clean Air Act Section 112(r):
Butane (106-97-8): Threshold quantities = 10,000 lbs.
Propane (74-98-6): Threshold quantities = 10,000 lbs.
Isobutane (75-28-5): Threshold quantities = 10,000 lbs.

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)
This product contains no chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other information

Health: 1
Flammability: 4
Physical Hazard: 3

NFPA Hazard Ratings

Health: 1
Flammability: 4
Reactivity: 3
Unique Hazard: 31

Revision date: 05.08.2015
Revision No: 2,0

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
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
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)
DNEL/DMEL: Derived No Effect Level / Derived Minimal Effect Level
WEL (UK): Workplace Exposure Limits
TWA (EC): Time-Weighted Average
ATE: Acute Toxicity Estimate
STEL (EC) Short Term Exposure Limit
LC50: Lethal Concentration
EC50: half maximal Effective Concentration
ErC50: means EC50 in terms of reduction of growth rate
VwVwS: Verwaltungsvorschrift wassergefährdende Stoffe (17. Mai 1999)

Other data
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.