1. Product and Company Identification

Product identifier
Trade name or designation of the mixture KaVo QUATTROcare plus Spray
Registration number -
Product registration number Not available.
Product code 1,005,3843-45;1,005,4523/24
Date of first issue 11-09-2011
Version number 1.0
Revision date 11-09-2011
Supersedes date

Relevant identified uses of the substance or mixture and uses advised against
Identified uses Not available.
Uses advised against None known.

Details of the supplier of the safety data sheet
Company name Kaltenbach & Voigt GmbH
Address Bismarckring 39
D-88400 Biberach
Germany
Telephone number +49 (0) 7351 56-0
Fax +49 (0) 7351 1488
Contact person Peter Fischer
Telephone number +49 (0) 175 30 57725
E-mail peter.fischer@bayer.com
Emergency telephone number +49 (0) 7351 56 4000

Product use professional use

2. Hazards Identification

Emergency overview DANGER
EXTREMELY FLAMMABLE LIQUID AND VAPOR.
CONTENTS UNDER PRESSURE.
Aerosol. Pressurized container may explode when exposed to heat or flame. Vapors may cause a flash fire or ignite explosively. Health injuries are not known or expected under normal use.

OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects
Eyes Health injuries are not known or expected under normal use.
Skin Health injuries are not known or expected under normal use.
Inhalation Intentional misuse by concentrating and inhaling the product can be harmful or fatal.
Ingestion Exposure by ingestion of an aerosol is unlikely.

3. Composition / Information on Ingredients

Non-hazardous components CAS # Percent
Butane (< 0,1 % Butadiene) 106-97-8
Isobutane (< 0,1% Butadiene) 75-28-5
PROPANE 74-98-6
4. First Aid Measures

First aid procedures

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Skin contact
Take off immediately all contaminated clothing. Rinse skin with water/shower.

Inhalation
If symptoms develop move victim to fresh air. Get medical attention if symptoms persist.

Ingestion
Clean mouth with water and drink afterwards plenty of water. Get medical attention if irritation develops and persists.

General advice
If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Extinguishing media

Suitable extinguishing media
Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media
Do not use water jet.

Advice for firefighters

Special protective equipment for firefighters
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Special firefighting procedures
Containers close to fire should be removed immediately or cooled with water. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

6. Accidental Release Measures

Personal precautions
Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep upwind. Keep out of low areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so.

Methods for containment
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up
This product is miscible in water. Stop the flow of material, if this is without risk. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the MSDS.

7. Handling and Storage

Handling
Pressurized container: Do not pierce or burn, even after use. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Ground and bond containers when transferring material. Do not use if spray button is missing or defective. Do not re-use empty containers. Use only in area provided with appropriate exhaust ventilation. Handle and open container with care.

Storage
Level 1 Aerosol.

Contents under pressure. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Avoid exposure to long periods of sunlight. Refrigeration recommended. Store in a well-ventilated place. Keep out of the reach of children. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butane (&lt; 0.1 % Butadiene)</td>
<td>TWA</td>
<td>1000 ppm</td>
</tr>
</tbody>
</table>

Material name: KaVo QUATTROcare plus Spray
MSDS No. 1,005,3843-45;1,005,4523/24  Version #: 1.0  Revision date: 11-09-2011  Print date: 11-09-2011
US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isobutane (&lt; 0.1%</td>
<td>TWA</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>Butadiene) (75-28-5)</td>
<td>TWA</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>PROPN (74-98-6)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPN (74-98-6)</td>
<td>PEL</td>
<td>1000 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1800 mg/m³</td>
</tr>
</tbody>
</table>

Personal protective equipment

- **Eye / face protection**: Eye wash fountain is recommended. Wear safety glasses with side shields.
- **Skin protection**: Normal work clothing (long sleeved shirts and long pants) is recommended.
- **General hygiene considerations**: When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Information on basic physical and chemical properties

- **Physical state**: Liquid.
- **Form**: Aerosol.
- **Color**: Light yellow.
- **Odor**: Odorless.
- **Odor threshold**: Not available.
- **pH**: Not applicable.
- **Melting point/freezing point**: Not available.
- **Boiling point, initial boiling point, and boiling range**: Not available.
- **Flash point**: -112 °F (-80 °C)
- **Auto-ignition temperature**: Not applicable.
- **Flammability (solid, gas)**: Not available.
- **Flammability limit - lower (%)**: 1.8 %
- **Flammability limit - upper (%)**: 11.2 %
- **Oxidizing properties**: Not applicable.
- **Explosive properties**: Not applicable.
- **Explosive limit**: Not applicable.
- **Vapor pressure**: 4.2 bar @ 20 °C
- **Vapor density**: Not applicable.
- **Evaporation rate**: Not applicable.
- **Ignition temperature**: > 662 °F (> 350 °C)

Information on basic physical and chemical properties

- **Relative density**: Not available.
- **Density**: 0.853 g/ml @ 20 °C
- **Solubility (water)**: Slight emulsifiable.
- **Partition coefficient (n-octanol/water)**: Not available.
- **Decomposition temperature**: Not available.
Viscosity: Not available.
VOC (Weight %): 84.46 %
Percent volatile: Not available.
Other information: No relevant additional information available.

10. Chemical Stability & Reactivity Information

Chemical stability: Risk of ignition.
Conditions to avoid: Aerosol containers are unstable at temperatures above 50°C.
Incompatible materials: Do not mix with other chemicals.
Hazardous decomposition products: No hazardous decomposition products are known.

11. Toxicological Information

Toxicological data

<table>
<thead>
<tr>
<th>Components</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isobutane (&lt; 0,1% Butadiene) (75-28-5)</td>
<td>Acute Inhalation LC50 Mouse: 52 mg/l 1 Hours</td>
</tr>
</tbody>
</table>

Serious eye damage/eye irritation: May irritate eyes.
Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Skin corrosion/irritation: Prolonged or repeated contact may cause drying, cracking, or irritation.
Further information: This product has no known adverse effect on human health.

12. Ecological Information

Ecotoxicity: There are no data on the ecotoxicity of this product.
Persistence and degradability: Not available.
Bioaccumulative potential: Not available.
Mobility: Not available.
Environmental fate - Partition coefficient: Not available.
Mobility in soil: Not available.
Results of PBT and vPvB assessment: Not available.
Other adverse effects: Not available.

13. Disposal Considerations

Waste codes: D001: Waste Flammable material with a flash point <140 F
Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Incinerate the material under controlled conditions in an approved incinerator. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose in accordance with all applicable regulations.
Waste from residues / unused products: Not applicable.
Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. Transport Information

DOT

Basic shipping requirements:
UN number: UN1950
Proper shipping name: Aerosols, flammable
Hazard class: 2.1
Subsidiary hazard class: 6.1(PGIII)
Additional information: N82
15. Regulatory Information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2)
Not regulated

DEA Essential Chemical Code Number
Not regulated

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c)
Not regulated

DEA Exempt Chemical Mixtures Code Number
Not regulated

CERCLA (Superfund) reportable quantity
Butane (< 0,1 % Butadiene): 100
Isobutane (< 0,1% Butadiene): 100
PROPANE: 100

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance
No

Section 311 hazardous chemical
No

Inventory status

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US - New Jersey Community RTK (EHS Survey): Reportable threshold
Butane (< 0,1 % Butadiene) (CAS 106-97-8) 500 LBS
Isobutane (< 0,1% Butadiene) (CAS 75-28-5) 500 LBS
PROPANE (CAS 74-98-6) 500 LBS

US - Pennsylvania RTK - Hazardous Substances: Listed substance
Butane (< 0,1 % Butadiene) (CAS 106-97-8) Listed.
Isobutane (< 0,1% Butadiene) (CAS 75-28-5) Listed.
## 16. Other Information

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HMIS ratings</strong></td>
<td>Health: 0 Flammability: 0 Physical hazard: 0</td>
</tr>
<tr>
<td><strong>NFPA ratings</strong></td>
<td>Health: 0 Flammability: 0 Instability: 0</td>
</tr>
<tr>
<td><strong>List of abbreviations</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>References</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Information on evaluation method</strong></td>
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</tr>
<tr>
<td><strong>Revision information</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Training information</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Disclaimer</strong></td>
<td>The information in the sheet was written based on the best knowledge and experience currently available.</td>
</tr>
</tbody>
</table>

**Further information**

HMIS® is a registered trade and service mark of the NPCA.

**Issue date**

11-09-2011

**Revision date**

11-09-2011

**Print date**

11-09-2011