



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

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Revision Number 1

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

1.1. Product identifier

Product Name Marxman / Marxmate

Synonyms None

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

Recommended use Aerosolised markers

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

Charles Bentley & Son Ltd
1 Monarch Way
Loughborough
LE11 5TP United Kingdom
Phone: 01509 232757

For further information, please contact

E-mail address quality@charlesbentley.com

1.4. Emergency telephone number

Emergency telephone 07975655996; 07831672077; 07932174148

Emergency telephone - §45 - (EC)1272/2008

Europe 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Aerosols Category 3 - (H229)

2.2. Label elements

Signal word

Warning

Hazard statements

H229 - Pressurised container: May burst if heated

Precautionary Statements - EU (§28, 1272/2008)

P102 - Keep out of reach of children

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P251 - Do not pierce or burn, even after use

P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

2.3. Other hazards

No information available.

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

Not applicable

3.2 Mixtures

| Chemical name | Weight-% | REACH registration number | EC No | Classification according to Regulation (EC) No. 1272/2008 [CLP] | Specific concentration limit (SCL) | M-Factor | M-Factor (long-term) |
|--------------------------|-----------|---------------------------|--------------------------|---|------------------------------------|----------|----------------------|
| HFO-1234ze 29118-24-9 | 92 - 97 | No data available | No information available | No data available | - | - | - |
| Ci 74260 1328-53-6 | 0.1 - 0.5 | No data available | 215-524-7 | No data available | - | - | - |

Full text of H- and EUH-phrases: see section 16Acute Toxicity Estimate

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 - 4 hour - dust/mist - mg/L | Inhalation LC50 - 4 hour - vapour - mg/L | Inhalation LC50 - 4 hour - gas - ppm |
|-----------------------|-----------|-------------------|---|--|--------------------------------------|
| Ci 74260 1328-53-6 | 5000 | No data available | No data available | No data available | No data available |

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures**4.1. Description of first aid measures**

| | |
|---------------------|--|
| Inhalation | Remove to fresh air. |
| Eye contact | Rinse thoroughly with plenty of water, also under the eyelids. |
| Skin contact | Wash skin with soap and water. |

Ingestion Clean mouth with water and drink afterwards plenty of water.

Self-protection of the first aider Wear personal protective clothing (see section 8).

4.2. Most important symptoms and effects, both acute and delayed

Symptoms No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Cylinders may rupture under extreme heat. Damaged cylinders should be handled only by specialists. Containers may explode when heated.

5.3. Advice for firefighters

Specific/special fire-fighting measures Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to control or extinguish the fire.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. See section 8 for more information. Avoid breathing dust/fume/gas/mist/vapours/spray.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Pick up and transfer to properly labelled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Advice on safe handling Avoid breathing dust/fume/gas/mist/vapours/spray. Use personal protection equipment. Ensure adequate ventilation. Do not puncture or incinerate cans. Contents under pressure.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Store in a cool, dry area away from potential sources of heat, open flames, sunlight or other chemicals. Keep in properly labelled containers.

7.3. Specific end use(s)

Specific use(s).
No information available

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure Limits**

| Chemical name | European Union | Austria | Belgium | Bulgaria | Croatia |
|--------------------------|----------------|--|--|--|---|
| Ci 74260 1328-53-6 | - | TWA: 1 mg/m ³ TWA: 0.1 mg/m ³ STEL 4 mg/m ³ STEL 0.4 mg/m ³ | - | - | - |
| Chemical name | Cyprus | Czech Republic | Denmark | Estonia | Finland |
| Ci 74260 1328-53-6 | - | - | - | - | TWA: 0.02 mg/m ³ |
| Chemical name | France | Germany | Germany MAK | Greece | Hungary |
| HFO-1234ze 29118-24-9 | - | TWA: 1000 ppm TWA: 4700 mg/m ³ | TWA: 1000 ppm TWA: 4700 mg/m ³ Peak: 2000 ppm Peak: 9400 mg/m ³ | - | - |
| Ci 74260 1328-53-6 | - | - | - | - | TWA: 0.1 mg/m ³ STEL: 0.2 mg/m ³ |
| Chemical name | Ireland | Italy | Italy REL | Latvia | Lithuania |
| Ci 74260 1328-53-6 | - | - | TWA: 1 mg/m ³ | - | - |
| Chemical name | Portugal | Romania | Slovakia | Slovenia | Spain |
| HFO-1234ze 29118-24-9 | - | - | - | TWA: 4700 mg/m ³ TWA: 1000 ppm STEL: STEL ppm STEL: STEL mg/m ³ | - |
| Ci 74260 1328-53-6 | - | - | - | - | TWA: 0.1 mg/m ³ |
| Chemical name | Sweden | | Switzerland | | United Kingdom |
| HFO-1234ze 29118-24-9 | - | | TWA: 1000 ppm TWA: 4700 mg/m ³ STEL: 2000 ppm STEL: 9400 mg/m ³ | | - |

Biological occupational exposure limits

| Chemical name | Latvia | Luxembourg | Romania | Slovakia |
|---------------|--------|------------|---------|----------|
| | | | | |

| | | | | |
|--------------------------|---|---|--|---|
| HFO-1234ze 29118-24-9 | - | - | 5 mg/g Creatinine - urine (Fluorine) - end of shift | - |
|--------------------------|---|---|--|---|

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Personal protective equipment

Eye/face protection None required for consumer use.

Hand protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Aerosol
Colour green
Odour No information available
Odour threshold No information available

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--|---------------|-------------------------|
| Melting point / freezing point | | No data available |
| Initial boiling point and boiling range | | No data available |
| Flammability | | No data available |
| Flammability Limit in Air | | |
| Upper flammability or explosive limits | | No data available |
| Lower flammability or explosive limits | | No data available |
| Flash point | | No data available |
| Autoignition temperature | | No data available |
| Decomposition temperature | | No data available |
| pH | | No data available |
| pH (as aqueous solution) | | No data available |
| Kinematic viscosity | | No data available |
| Dynamic viscosity | | No data available |
| Water solubility | | No data available |
| Solubility(ies) | | No data available |
| Partition coefficient | | No data available |
| Vapour pressure | | No data available |
| Relative density | | No data available |
| Bulk density | | No data available |
| Liquid Density | | No data available |
| Vapour density | | No data available |

Particle characteristics**Particle Size**

No data available

Particle Size Distribution

No data available

9.2. Other information

9.2.1. Information with regards to physical hazard classes

Not applicable

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity**10.1. Reactivity****Reactivity**

None under normal use conditions.

10.2. Chemical stability**Stability**

Stable under normal conditions.

Explosion data**Sensitivity to mechanical impact** None.**Sensitivity to static discharge** None.**10.3. Possibility of hazardous reactions****Possibility of hazardous reactions** None under normal processing.**10.4. Conditions to avoid****Conditions to avoid**

Heat, flames and sparks.

10.5. Incompatible materials**Incompatible materials**

None known based on information supplied.

10.6. Hazardous decomposition products**Hazardous decomposition products** None known based on information supplied.**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Information on likely routes of exposure****Product Information****Inhalation**

No known effects under normal use conditions.

Eye contact

Specific test data for the substance or mixture is not available.

Skin contact

Specific test data for the substance or mixture is not available.

Ingestion

Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics**Symptoms**

No information available.

Numerical measures of toxicity**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---------------|----------------------|-------------|--------------------------|
| HFO-1234ze | - | - | > 207000 ppm (Rat) 4 h |
| Ci 74260 | > 5000 mg/kg (Rat) | - | - |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--|---------------------------|
| Skin corrosion/irritation | No information available. |
| Serious eye damage/eye irritation | No information available. |
| Respiratory or skin sensitisation | No information available. |
| Germ cell mutagenicity | No information available. |
| Carcinogenicity | No information available. |
| Reproductive toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | No information available. |
| Aspiration hazard | No information available. |

11.2. Information on other hazards11.2.1. Endocrine disrupting properties

| | |
|--|---------------------------|
| Endocrine disrupting properties | No information available. |
|--|---------------------------|

11.2.2. Other information

| | |
|------------------------------|---------------------------|
| Other adverse effects | No information available. |
|------------------------------|---------------------------|

SECTION 12: Ecological information12.1. Toxicity**Ecotoxicity**

| | |
|---------------------------------|---|
| Unknown aquatic toxicity | Contains 0 % of components with unknown hazards to the aquatic environment. |
|---------------------------------|---|

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---------------|----------------------|---|----------------------------|-----------|
| Ci 74260 | - | LC50: =752.4mg/L (96h, Lepomis macrochirus) | - | - |

12.2. Persistence and degradability

| | |
|--------------------------------------|---------------------------|
| Persistence and degradability | No information available. |
|--------------------------------------|---------------------------|

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment

| Chemical name | PBT and vPvB assessment |
|---------------|---------------------------------|
| Ci 74260 | The substance is not PBT / vPvB |

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations.

Contaminated packaging Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

Waste codes / waste designations according to EWC / AVV According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IMDG

Notes: Container size: < 50 mL

- 14.1 UN number or ID number Not regulated
- 14.2 UN proper shipping name Not regulated
- 14.3 Transport hazard class(es) Not regulated
- 14.4 Packing group Not regulated
- 14.5 Environmental hazards Not applicable
- Marine pollutant Not applicable
- 14.6 Special Precautions for Users
Special Provisions None
- 14.7 Maritime transport in bulk according to IMO instruments No information available

RID

Notes: Container size: < 50 mL

- 14.1 UN number Not regulated
- 14.2 UN proper shipping name Not regulated
- 14.3 Transport hazard class(es) Not regulated
- 14.4 Packing group Not regulated
- 14.5 Environmental hazards Not applicable
- 14.6 Special Precautions for Users

Special Provisions None

ADR

Notes: Container size: < 50 mL
14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazards Not applicable
14.6 Special Precautions for Users
Special Provisions None

IATA

Notes: Container size: < 50 mL
14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazards Not applicable
14.6 Special Precautions for Users
Special Provisions None
Note: None

SECTION 15: Regulatory information

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

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV). This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

| Chemical name | Restricted substance per REACH Annex XVII | Substance subject to authorisation per REACH Annex XIV |
|----------------------|---|--|
| Ci 74260 - 1328-53-6 | 75. | |

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

International Inventories

Contact supplier for inventory compliance status

15.2. Chemical safety assessment

Chemical Safety Report

No information available

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)
 Ceiling Maximum limit value * Skin designation

| Classification procedure | |
|---|--------------------|
| Classification according to Regulation (EC) No. 1272/2008 [CLP] | Method Used |
| Acute oral toxicity | Calculation method |
| Acute dermal toxicity | Calculation method |
| Acute inhalation toxicity - gas | Calculation method |
| Acute inhalation toxicity - Vapour | Calculation method |
| Acute inhalation toxicity - dust/mist | Calculation method |
| Skin corrosion/irritation | Calculation method |
| Serious eye damage/eye irritation | Calculation method |
| Respiratory sensitisation | Calculation method |
| Skin sensitisation | Calculation method |
| Mutagenicity | Calculation method |
| Carcinogenicity | Calculation method |
| Reproductive toxicity | Calculation method |
| STOT - single exposure | Calculation method |
| STOT - repeated exposure | Calculation method |
| Acute aquatic toxicity | Calculation method |
| Chronic aquatic toxicity | Calculation method |
| Aspiration hazard | Calculation method |
| Ozone | Calculation method |
| | |

Key literature references and sources for data used to compile the SDS

U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGl(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
 Organisation for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

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Revision Note

Initial Release.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet