



SAFETY DATA SHEET

Harsh Conditions Barrier

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

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

1.1. Product identifier

Product name Muc-Off HCB-1 Harsh Conditions Barrier

Product number 20356, 20579

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

Identified uses Corrosion inhibitor.

Uses advised against Use only for intended applications.

1.3. Details of the supplier of the safety data sheet

Supplier Muc-Off Ltd
Unit 23 Branksome Business Park,
Bourne Valley Rd,
Poole
BH12 1DW
United Kingdom
01202 307790
info@muc-off.com

1.4. Emergency telephone number

Emergency telephone +44 (0) 1202 307790

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Aerosol 1 - H222, H229

Health hazards STOT SE 3 - H336

Environmental hazards Aquatic Chronic 3 - H412

2.2. Label elements

Hazard pictograms



Signal word Danger

Hazard statements H222 Extremely flammable aerosol.
H229 Pressurised container: may burst if heated.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.

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Precautionary statements	P102 Keep out of reach of children. P261 Avoid breathing vapour/ spray. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P501 Dispose of contents/ container in accordance with local regulations.
Supplemental label information	EUH066 Repeated exposure may cause skin dryness or cracking.
Contains	Hydrocarbons, C9, aromatics, Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics
Supplementary precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211 Do not spray on an open flame or other ignition source. P251 Do not pierce or burn, even after use. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312 Call a POISON CENTRE/doctor if you feel unwell. P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Petroleum gases, liquefied			10-30%
CAS number: 68476-85-7	EC number: 270-704-2		
Classification Flam. Gas 1 - H220 Press. Gas (Liq.) - H280			
Hydrocarbons, C9, aromatics			10-30%
CAS number: —	EC number: 918-668-5	REACH registration number: 01-2119455851-35-XXXX	
Classification Flam. Liq. 3 - H226 STOT SE 3 - H335, H336 Asp. Tox. 1 - H304 Aquatic Chronic 2 - H411			
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics			10-30%
CAS number: —	EC number: 919-857-5		
Classification Flam. Liq. 3 - H226 STOT SE 3 - H336 Asp. Tox. 1 - H304			

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NAPHTHALENESULFONIC ACID, DINONYL-, CALCIUM SALT		5-10%
CAS number: —	EC number: 939-717-7	
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319		

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if symptoms are severe or persist. Place unconscious person on their side in the recovery position and ensure breathing can take place.
Ingestion	Rinse mouth thoroughly with water. If in doubt, get medical attention promptly. Due to the small packaging, the risk of ingestion is minimal. Do not induce vomiting unless under the direction of medical personnel.
Skin contact	Remove contamination with soap and water or recognised skin cleansing agent.
Eye contact	Remove any contact lenses and open eyelids wide apart. Rinse with water. Get medical attention if any discomfort continues.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

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

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Spray/mists may cause respiratory tract irritation.
Ingestion	Due to the physical nature of this product, it is unlikely that ingestion will occur.
Skin contact	Repeated exposure may cause skin dryness or cracking.
Eye contact	Vapour or spray in the eyes may cause irritation and smarting. Particles in the eyes may cause irritation and smarting.

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

Specific treatments	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product is flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

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Specific hazards	Containers can burst violently or explode when heated, due to excessive pressure build-up. Bursting aerosol containers may be propelled from a fire at high speed. If aerosol cans are ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant. Vapours may form explosive mixtures with air.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Toxic gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO ₂).
<u>5.3. Advice for firefighters</u>	
Protective actions during firefighting	Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Evacuate area. Provide adequate ventilation. No smoking, sparks, flames or other sources of ignition near spillage. If aerosol cans are ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant. Take precautionary measures against static discharges.
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6.2. Environmental precautions

Environmental precautions	Avoid discharge into drains or watercourses or onto the ground. Not considered to be a significant hazard due to the small quantities used.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Clear up spills immediately and dispose of waste safely. Eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage. Under normal conditions of handling and storage, spillages from aerosol containers are unlikely. If aerosol cans are ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant. Provide adequate ventilation. Small Spillages: Wipe up with an absorbent cloth and dispose of waste safely. Large Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.
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6.4. Reference to other sections

Reference to other sections	For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Usage precautions

Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. The product is flammable. Avoid exposing aerosol containers to high temperatures or direct sunlight. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Spray will evaporate and cool rapidly and may cause frostbite or cold burns if in contact with skin. Do not expose to temperatures exceeding 50°C/122°F. Avoid inhalation of vapours and spray/mists. Avoid contact with eyes.

Advice on general occupational hygiene

Good personal hygiene procedures should be implemented. Wash contaminated skin thoroughly after handling. Take off contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Wash after use and before eating, smoking and using the toilet.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Store away from incompatible materials (see Section 10). Keep away from oxidising materials, heat and flames. Store in a cool and well-ventilated place. Protect from sunlight. Keep containers upright. Protect containers from damage. Do not expose to temperatures exceeding 50°C/122°F. Do not store near heat sources or expose to high temperatures. Store in accordance with national regulations.

Storage class

Chemical storage. Aerosol containers and lighters

7.3. Specific end use(s)

Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

Petroleum gases, liquefied

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 1750 mg/m³

Short-term exposure limit (15-minute): WEL 1250 ppm 2180 mg/m³

WEL = Workplace Exposure Limit.

Hydrocarbons, C9, aromatics

DNEL

Workers - Inhalation; Long term systemic effects: 150 mg/m³

Workers - Dermal; Long term systemic effects: 25 mg/kg/day

General population - Inhalation; Long term systemic effects: 32 mg/m³

General population - Dermal; Long term systemic effects: 11 mg/kg/day

General population - Oral; Long term systemic effects: 11 mg/kg/day

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.

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Hand protection	To protect hands from chemicals, gloves should comply with European Standard EN374. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
Other skin and body protection	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Hygiene measures	Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.
Respiratory protection	Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Aerosol.
Odour	Hydrocarbons.
Initial boiling point and range	-40 - -2°C (LPG)
Flash point	-104°C (LPG)
Upper/lower flammability or explosive limits	1.4 - 10.9%(V)(LPG)
Vapour pressure	590 - 1760 KPa (LPG)
Auto-ignition temperature	365 °C / 689 °F (LPG)

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	See the other subsections of this section for further details.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	The following materials may react strongly with the product: Oxidising agents.
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10.4. Conditions to avoid

Conditions to avoid	Avoid exposing aerosol containers to high temperatures or direct sunlight. Pressurised container: may burst if heated Avoid heat, flames and other sources of ignition. Avoid the following conditions: Freezing.
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10.5. Incompatible materials

Materials to avoid	No specific requirements are anticipated under normal conditions of use.
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10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Inhalation Gas or vapour may irritate the respiratory system. May cause nausea, headache, dizziness and intoxication. Vapour may irritate respiratory system/lungs.

Ingestion Due to the physical nature of this product, it is unlikely that ingestion will occur. Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract. May cause chemical burns in mouth, oesophagus and stomach. May cause discomfort if swallowed. May cause stomach pain or vomiting.

Skin contact Repeated exposure may cause skin dryness or cracking.

Eye contact May cause eye irritation. May cause serious eye damage.

Route of exposure Inhalation Ingestion Skin and/or eye contact

SECTION 12: Ecological information

12.1. Toxicity

Toxicity The product is not believed to present a hazard due to its physical nature.

12.2. Persistence and degradability

Persistence and degradability Volatile substances are degraded in the atmosphere within a few days. The other substances in the product are not expected to be readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential Bioaccumulation is unlikely to be significant because of the low water-solubility of this product. Exposure to aquatic environment unlikely.

12.4. Mobility in soil

Mobility The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects The product contains volatile organic compounds (VOCs) which have a photochemical ozone creation potential.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information The generation of waste should be minimised or avoided wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Dispose of waste product or used containers in accordance with local regulations

Disposal methods Do not empty into drains. Empty containers must not be punctured or incinerated because of the risk of an explosion. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

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Waste class The waste code classification is to be carried out according to the European Waste Catalogue (EWC).

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1950
UN No. (IMDG)	1950
UN No. (ICAO)	1950
UN No. (ADN)	1950

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	AEROSOLS
Proper shipping name (IMDG)	AEROSOLS
Proper shipping name (ICAO)	AEROSOLS
Proper shipping name (ADN)	AEROSOLS

14.3. Transport hazard class(es)

ADR/RID class	2.1
ADR/RID classification code	5F
ADR/RID label	2.1
IMDG class	2.1
ICAO class/division	2.1
ADN class	2.1

Transport labels



14.4. Packing group

ADR/RID packing group	None
IMDG packing group	None
ICAO packing group	None
ADN packing group	None

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS	F-D, S-U
ADR transport category	2
Tunnel restriction code	(D)

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

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

SECTION 15: Regulatory information

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

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits. The Aerosol Dispensers Regulations 2009 (SI 2009 No. 2824).
EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. 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 (as amended). Council Directive of 20 May 1975 on the approximation of the laws of the Member States relating to aerosol dispensers (75/324/EEC) (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

None of the ingredients are listed or exempt.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways. RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail. IATA: International Air Transport Association. ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air. IMDG: International Maritime Dangerous Goods. CAS: Chemical Abstracts Service. ATE: Acute Toxicity Estimate. LC ₅₀ : Lethal Concentration to 50 % of a test population. LD ₅₀ : Lethal Dose to 50% of a test population (Median Lethal Dose). EC ₅₀ : 50% of maximal Effective Concentration. PBT: Persistent, Bioaccumulative and Toxic substance. vPvB: Very Persistent and Very Bioaccumulative.
Classification abbreviations and acronyms	Aerosol = Aerosol
Key literature references and sources for data	Source: European Chemicals Agency, http://echa.europa.eu/

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Classification procedures according to Regulation (EC) 1272/2008	Aerosol 1 - H222, H229: : Expert judgement.
Revision date	24/08/2020
Revision	1
SDS number	6732
Hazard statements in full	H220 Extremely flammable gas. H222 Extremely flammable aerosol. H226 Flammable liquid and vapour. H229 Pressurised container: may burst if heated. H280 Contains gas under pressure; may explode if heated. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.