

SAFETY DATA SHEET

1. Identification

Product number BR-48
Product identifier **BRC MULTI SURFACE**
Company information BROTHERS RESEARCH CORP.
BURLINGTON, NC 27216 United States
Company phone General Assistance 1-954-974-5440
Emergency telephone US 1-866-836-8855
Emergency telephone outside US 1-952-852-4646
Version # 01
Recommended use Not available.
Recommended restrictions None known.

2. Hazard(s) identification

Physical hazards Flammable aerosols Category 1
Health hazards Sensitization, skin Category 1
OSHA defined hazards Not classified.

Label elements



Signal word Danger
Hazard statement Extremely flammable aerosol. May cause an allergic skin reaction.
Prevention 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. Avoid breathing gas. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves.
Response If on skin: Wash with plenty of water. Specific treatment (see this label). If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Storage Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) Not classified.
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 2
Hazardous to the aquatic environment, long-term hazard Category 2

Supplemental information

Hazard statement Toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Prevention Avoid release to the environment.
Response Collect spillage.

7.51% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 7.51% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

| Hazardous components | | | |
|----------------------|--------------------------|------------|----------|
| Chemical name | Common name and synonyms | CAS number | % |
| D-Limonene | | 5989-27-5 | 2.5 - 10 |
| Propane | | 74-98-6 | 2.5 - 10 |

| Hazardous components Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|------------|----------|
| Butane | | 106-97-8 | 1 - 2.5 |
| Other components below reportable levels | | | 90 - 100 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

| | |
|--|---|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Take off immediately all contaminated clothing. Wash the skin immediately with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth. Get medical attention if symptoms occur. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. May cause allergic skin reaction. Rash. |
| Indication of immediate medical attention and special treatment needed | Treat symptomatically. |
| General information | Take off all contaminated clothing immediately. Wash contaminated clothing before reuse. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

| | |
|---|---|
| Suitable extinguishing media | Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO ₂). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire-fighting equipment/instructions | Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. |

6. Accidental release measures

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| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. |
| Methods and materials for containment and cleaning up | 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. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

| | |
|--|---|
| Precautions for safe handling | Do not handle or store near an open flame, heat or other sources of ignition. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not spray on a naked flame or any other incandescent material. Use only in well-ventilated areas. Provide adequate ventilation. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes and clothing. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not re-use empty containers. Observe good industrial hygiene practices. |
| Conditions for safe storage, including any incompatibilities | Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Keep away from heat, sparks and open flame. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the MSDS). Level 1 Aerosol. |

8. Exposure controls/personal protection

Occupational exposure limits

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

| Components | Type | Value |
|-----------------------|------|------------------------------------|
| Propane (CAS 74-98-6) | PEL | 1800 mg/m ³ 1000 ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|-----------------------|------|------------------------------------|
| Butane (CAS 106-97-8) | TWA | 1900 mg/m ³ 800 ppm |
| Propane (CAS 74-98-6) | TWA | 1800 mg/m ³ 1000 ppm |

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Explosion-proof general and local exhaust ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Color Not available.

Form Aerosol.

Physical state Gas.

Flash point -156.00 °F (-104.44 °C) propellant estimated

Melting point/freezing point Not available.

Odor Not available.

pH Not available.

Solubility(ies) Not available.

Vapor density Not available.

Vapor pressure 47.33 psig @70F estimated

Viscosity Not available.

Other information

Specific gravity 0.946 estimated

10. Stability and reactivity

Reactivity Strong oxidizing agents.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

Conditions to avoid Avoid heat, sparks, open flames and other ignition sources. Contact with incompatible materials.

Hazardous decomposition products No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion Expected to be a low ingestion hazard.

Inhalation No adverse effects due to inhalation are expected.

Skin contact May cause an allergic skin reaction. Causes mild skin irritation.
 Eye contact Direct contact with eyes may cause temporary irritation.
 Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation. May cause allergic skin reaction.
 Information on toxicological effects
 Acute toxicity Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

| Product | Species | Test Results |
|-----------------------------------|---------|--|
| WALL & TILE CLEANER (CAS Mixture) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rat | 41359.8906 mg/kg, estimated |
| Inhalation | | |
| LC50 | Mouse | 28936.1699 mg/l, 2 Hours, estimated |
| | Rat | 54447.0547 mg/l, 15 Minutes, estimated |
| | | 28000 mg/l, 4 Hours, estimated |
| | | 13160 mg/l/4h, estimated |
| Oral | | |
| LD50 | Mouse | 88184.0547 mg/kg, estimated |
| | Rat | 7793.7319 g/kg, estimated |
| Other | | |
| LD50 | Mouse | 27.3678 g/kg, estimated |
| | Rat | 2.3157 g/kg, estimated |
| Components | Species | Test Results |

| | | |
|-----------------------|-------|-------------------|
| Butane (CAS 106-97-8) | | |
| Acute | | |
| Inhalation | | |
| LC50 | Mouse | 680 mg/l, 2 Hours |
| | Rat | 658 mg/l, 4 Hours |

| | | |
|----------------------------|-------|-------------------|
| D-Limonene (CAS 5989-27-5) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rat | 2000 mg/kg |
| Oral | | |
| LD50 | Mouse | 5600 - 6600 mg/kg |
| Other | | |
| LD50 | Mouse | 1.3 g/kg |
| | Rat | 0.11 g/kg |

| | | |
|-----------------------|-----|-----------------------------|
| Propane (CAS 74-98-6) | | |
| Acute | | |
| Inhalation | | |
| LC50 | Rat | > 1442.847 mg/l, 15 Minutes |
| | | 658 mg/l/4h |

Skin corrosion/irritation Causes mild skin irritation.
 Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.
 Respiratory sensitization Not a respiratory sensitizer.
 Skin sensitization May cause an allergic skin reaction.
 Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
 Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
 IARC Monographs. Overall Evaluation of Carcinogenicity
 D-Limonene (CAS 5989-27-5) 3 Not classifiable as to carcinogenicity to humans.
 Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.
 Specific target organ toxicity - repeated exposure Not classified.
 Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

| Product | | Species | Test Results |
|-----------------------------------|------|--------------------------------------|--------------------------------------|
| WALL & TILE CLEANER (CAS Mixture) | | | |
| Algae | IC50 | Algae | 11415.5254 mg/L, 72 Hours, estimated |
| Crustacea | EC50 | Daphnia | 1217.3518 mg/L, 48 Hours, estimated |
| Fish | LC50 | Fish | 3354.3198 mg/L, 96 Hours, estimated |
| Components | | Species | Test Results |
| D-Limonene (CAS 5989-27-5) | | | |
| Fish | LC50 | Fish | 702 mg/L, 96 Hours |
| Aquatic | | | |
| Crustacea | EC50 | Water flea (Daphnia pulex) | 69.6 mg/l, 48 hours |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | 0.619 - 0.796 mg/l, 96 hours |

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

| Partition coefficient n-octanol / water (log Kow) | |
|---|-------|
| Propane | 2.36 |
| Butane | 2.89 |
| D-Limonene | 4.232 |

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

| | |
|------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) | 2.1 |
| Subsidiary class(es) | Not available. |
| Packing group | Not available. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Labels required | none |
| Special provisions | N82 |
| Packaging exceptions | 306 |
| Packaging non bulk | None |
| Packaging bulk | None |

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IATA

| | |
|----------------------------|---------------------|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable |
| Transport hazard class(es) | 2.1 |

| | |
|------------------------------|---|
| Subsidiary class(es) | - |
| Packaging group | Not available. |
| Environmental hazards | No |
| Labels required | 2.1 |
| ERG Code | Not available. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Packaging Exceptions | LTD QTY |

IMDG

| | |
|------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | AEROSOLS, MARINE POLLUTANT |
| Transport hazard class(es) | 2.1 |
| Subsidiary class(es) | - |
| Packaging group | Not available. |
| Environmental hazards | |
| Marine pollutant | Yes |
| Labels required | none |
| EmS | Not available. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Packaging Exceptions | LTD QTY |

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

DOT



IATA; IMDG



Marine pollutant



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. 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.