


1. Identification

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| Product identifier | TUFCHEM™ II MEMBRANE - REGULAR GRADE RESIN PART A |
| Other means of identification | None. |
| Recommended use | Not available. |
| Recommended restrictions | None known. |
| Manufacturer/Importer/Supplier/Distributor information | |
| Company Name | ErgonArmor, a division of Ergon Asphalt & Emulsions, Inc. |
| Address | 2829 Lakeland Drive Jackson, MS 39232 USA |
| After hours telephone number | 1-800-222-7122 |
| Normal work hours telephone number | 1-877-982-7667 |
| Website | www.ergonarmor.com |
| E-mail | sds@ergon.com |
| Emergency 24-hour telephone number | CHEMTREC: North America 1-800-424-9300 International 1-800-527-3887 |
| Information on operation hours | 8:00 a.m. to 5:00 p.m. |
| Supplier | Not available. |

2. Hazard identification

| | | |
|--------------------------------|--|-----------------------------|
| Physical hazards | Flammable liquids | Category 3 |
| Health hazards | Skin corrosion/irritation | Category 2 |
| | Serious eye damage/eye irritation | Category 2 |
| | Germ cell mutagenicity | Category 1 |
| | Carcinogenicity | Category 1 |
| | Specific target organ toxicity, single exposure | Category 3 narcotic effects |
| | Specific target organ toxicity, repeated exposure | Category 2 |
| Environmental hazards | Not classified. | |
| Label elements |  | |
| Signal word | Danger | |
| Hazard statement | Flammable liquid and vapor. Causes skin irritation. Causes serious eye irritation. May cause genetic defects. May cause cancer. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. | |
| Precautionary statement | | |
| Prevention | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Use explosion-proof electrical/ventilating/lighting equipment. Use only outdoors or in a well-ventilated area. | |

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| Response | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. If skin irritation occurs: Get medical advice/attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center/doctor if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Specific treatment see Section 4 of this SDS. If exposed or concerned: Get medical advice/attention. In case of fire: Use appropriate media to extinguish. |
| Storage | Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up. |
| Disposal | Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Supplemental information | None. |
| Other hazards | None known. |

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|----------------------|-----------|
| ASPHALT | | 8052-42-4 | 40 - 50 |
| MINERAL SPIRITS | | 8052-41-3/64742-48-9 | 10 - 15 |
| QUARTZ | | 14808-60-7 | < 1 |
| Other components below reportable levels | | | 40 - < 50 |

4. First-aid measures

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| Inhalation | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist. |
| Skin contact | Wash off immediately with soap and plenty of water. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. 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. Continue rinsing. Get medical attention immediately. |
| Ingestion | Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions. Call a physician or poison control center immediately. |
| Most important symptoms/effects, acute and delayed | May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. |
| General information | Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse. |

5. Fire-fighting measures

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| Suitable extinguishing media | Water fog. Foam. Carbon dioxide (CO ₂). Dry chemical powder. |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. |
| Special protective equipment and precautions for firefighters | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |
| Fire fighting equipment/instructions | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. In the event of fire, cool tanks with water spray. In case of fire and/or explosion do not breathe fumes. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | Flammable liquid and vapor. |

6. Accidental release measures

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. Avoid breathing mist/vapors. 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. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Prevent entry into waterways, sewer, basements or confined areas. Take precautionary measures against static discharge. Use only non-sparking tools.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Keep combustibles (wood, paper, oil, etc.) away from spilled material. 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.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Put material in suitable, covered, labeled containers.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash thoroughly after handling. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Keep away from heat and sources of ignition. Prevent electrostatic charge build-up by using common bonding and grounding techniques.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values (TLV)

| Components | Type | Value | Form |
|-------------------------|------|-------------------------|----------------------|
| ASPHALT (CAS 8052-42-4) | TWA | 0.5 mg/m ³ | Inhalable fume. |
| QUARTZ (CAS 14808-60-7) | TWA | 0.025 mg/m ³ | Respirable fraction. |

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended

| Components | Type | Value | Form |
|-------------------------|------|-------------------------|-----------------------|
| ASPHALT (CAS 8052-42-4) | TWA | 5 mg/m ³ | Fume. |
| QUARTZ (CAS 14808-60-7) | TWA | 0.025 mg/m ³ | Respirable particles. |

Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances Workers Compensation Board, as amended

| Components | Type | Value | Form |
|-------------------------|------|-----------------------|---------------------|
| ASPHALT (CAS 8052-42-4) | TWA | 0.5 mg/m ³ | Aerosol, inhalable. |

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended

| Components | Type | Value | Form |
|-------------------------|------|-------------------------|----------------------|
| ASPHALT (CAS 8052-42-4) | TWA | 0.5 mg/m ³ | Inhalable fume. |
| QUARTZ (CAS 14808-60-7) | TWA | 0.025 mg/m ³ | Respirable fraction. |

Canada. New Brunswick OELs: Threshold Limit Values (TLVs) Based on the 1991 and 1997 ACGIH TLVs and BEIs Publication (New Brunswick Regulation 91-191)

| Components | Type | Value | Form |
|-------------------------|------|-------------|------------------------------|
| ASPHALT (CAS 8052-42-4) | TWA | 0.5 mg/m3 | Inhalable fraction, Aerosole |
| QUARTZ (CAS 14808-60-7) | TWA | 0.025 mg/m3 | Respirable fraction. |

Canada. Ontario OELs (Regulation 833, Control of Exposure to Biological or Chemical Agents), as amended

| Components | Type | Value | Form |
|-------------------------|------|-----------|----------------------|
| ASPHALT (CAS 8052-42-4) | TWA | 0.5 mg/m3 | Inhalable fraction. |
| MINERAL SPIRITS | TWA | 525 mg/m3 | |
| QUARTZ (CAS 14808-60-7) | TWA | 0.1 mg/m3 | Respirable fraction. |

Canada. Quebec OELs (Regulation respecting occupational health and safety, v. S-2.1, r.13), as amended

| Components | Type | Value | Form |
|-------------------------|------|------------|------------------|
| ASPHALT (CAS 8052-42-4) | TWA | 5 mg/m3 | Fume. |
| QUARTZ (CAS 14808-60-7) | TWA | 0.05 mg/m3 | Respirable dust. |

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996; Table 21), as amended

| Components | Type | Value | Form |
|-------------------------|-----------|-----------|---------------------|
| ASPHALT (CAS 8052-42-4) | 15 minute | 1.5 mg/m3 | Aerosol, inhalable. |

Biological limit values

ACGIH Biological Exposure Indices (BEI)

| Components | Value | Determinant | Specimen | Sampling Time |
|-------------------------|----------|---|----------|---------------|
| ASPHALT (CAS 8052-42-4) | 2.5 µg/l | 1-Hydroxypyrene, with hydrolysis (1-HP) | Urine | * |

* - For sampling details, please see the source document.

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| Appropriate engineering controls | Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. |
| Individual protection measures, such as personal protective equipment | |
| Eye/face protection | Wear safety glasses with side shields (or goggles). |
| Skin protection | |
| Hand protection | Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves. |
| Other | Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. |
| Respiratory protection | In case of insufficient ventilation, wear suitable respiratory equipment. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| General hygiene considerations | Observe any medical surveillance requirements. 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. Do not get in eyes, on skin, on clothing. |

9. Physical and chemical properties

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| Appearance | Liquid. |
| Physical state | Liquid. |
| Form | Liquid. Viscous. Semi-solid at ambient temperature |
| Color | Brown to Black |
| Odor | Not available. |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | Not available. |
| Flash point | ≥ 100.0 - ≤ 140.0 °F (≥ 37.8 - ≤ 60.0 °C) Cleveland Open Cup |

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|---|-----------------|
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or explosive limits | |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | Not available. |
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Explosive properties | Not explosive. |
| Oxidizing properties | Not oxidizing. |

10. Stability and reactivity

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| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | Hazardous polymerization does not occur. |
| Conditions to avoid | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. Strong reducing agents. Alkalines. Acids. This product reacts with hydrofluoric acid. Halogens. |
| Hazardous decomposition products | Carbon dioxide. Carbon monoxide. |

11. Toxicological information

Information on likely routes of exposure

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| Inhalation | May cause drowsiness or dizziness. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Headache. Nausea, vomiting. |
| Skin contact | Causes skin irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. |
| Eye contact | Causes serious eye irritation. |
| Ingestion | May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure. |

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| Symptoms related to the physical, chemical and toxicological characteristics | May cause drowsiness or dizziness. Headache. Nausea, vomiting. Coughing. Skin irritation. May cause redness and pain. Shortness of breath. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Severe eye irritation. |
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Information on toxicological effects

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|-----------------------|-----------------|
| Acute toxicity | Not classified. |
|-----------------------|-----------------|

| Components | Species | Test Results |
|-------------------------|---------|--------------|
| ASPHALT (CAS 8052-42-4) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | > 2000 mg/kg |

| Components | Species | Test Results |
|--------------|---------|--------------|
| Oral LD50 | Rat | > 5000 mg/kg |

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation May be irritating to eyes.

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

ASPHALT (CAS 8052-42-4) Irritant

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization Not a skin sensitizer.

Germ cell mutagenicity May cause genetic defects.

Carcinogenicity May cause cancer.

ACGIH Carcinogens

ASPHALT (CAS 8052-42-4) A4 Not classifiable as a human carcinogen.

QUARTZ (CAS 14808-60-7) A2 Suspected human carcinogen.

Canada - Alberta OELs: Carcinogen category

QUARTZ (CAS 14808-60-7) Suspected human carcinogen.

Canada - Manitoba OELs: carcinogenicity

ASPHALT (CAS 8052-42-4) Not classifiable as a human carcinogen.

QUARTZ (CAS 14808-60-7) Suspected human carcinogen.

Canada - Quebec OELs: Carcinogen category

QUARTZ (CAS 14808-60-7) Suspected carcinogenic effect in humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

ASPHALT (CAS 8052-42-4) 2B Possibly carcinogenic to humans.

MINERAL SPIRITS (CAS 8052-41-3/64742-48-9) 3 Not classifiable as to carcinogenicity to humans.

QUARTZ (CAS 14808-60-7) 1 Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

ASPHALT (CAS 8052-42-4) Known To Be Human Carcinogen.

QUARTZ (CAS 14808-60-7) Known To Be Human Carcinogen.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard Not classified.

Chronic effects Prolonged exposure may cause chronic effects. Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Product | Species | | Test Results |
|--|---------|---------|--------------------------------|
| TUFCEM™ II MEMBRANE - REGULAR GRADE RESIN PART A | | | |
| Aquatic | | | |
| Crustacea | EC50 | Daphnia | 4289.7461 mg/l, 48 hours |
| Fish | LC50 | Fish | 262.6234 mg/l, 96 hours |
| Acute | | | |
| Crustacea | EC50 | Daphnia | 87600 mg/l, 48 hours estimated |
| Fish | LC50 | Fish | 59000 mg/l, 96 hours estimated |

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

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 Dispose of this material and its container to hazardous or special waste collection point. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F
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. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG

UN number UN1999
UN proper shipping name TARS, LIQUID , including road asphalt and oils, and cutback bitumens
Transport hazard class(es)
Class 3
Subsidiary hazard -
Packing group III
Environmental hazards No.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number UN1999
UN proper shipping name Tars, liquid including road asphalt and oils, bitumen and cut backs
Transport hazard class(es)
Class 3
Subsidiary hazard -
Packing group III
Environmental hazards No.
ERG Code 3L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Other information
Passenger and cargo aircraft Allowed with restrictions.
Cargo aircraft only Allowed with restrictions.

IMDG

UN number UN1999
UN proper shipping name TARS, LIQUID including road oils, and cutback bitumens
Transport hazard class(es)
Class 3
Subsidiary hazard -
Packing group III
Environmental hazards
Marine pollutant No.
EmS F-E, S-E
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

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

**General information**

If shipped by ground in individual containers that are less than 119 gallons (450 L): Not regulated as a hazardous material (49 CFR 173.121). If shipped by vessel in individual containers that are less than 119 gallons (450 L) each, then IMDG 2.3.2.5 exception applies. Not subject to the provisions for marking, labelling, and testing of packages. "Transport in accordance with 2.3.2.5 of the IMDG code."

15. Regulatory information**Canadian regulations**

This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR. This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations

This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. The product is classified and labelled in accordance with EC directives or respective national laws.

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

ASPHALT (CAS 8052-42-4)

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|----------------------|--|------------------------|
| Australia | Australian Inventory of Industrial Chemicals (AICIS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| Taiwan | Taiwan Chemical Substance Inventory (TCSI) | Yes |

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|--|---|------------------------|
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |
| *A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s) A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s). | | |

16. Other information

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| Issue date | 08-02-2022 |
| Revision date | 06-17-2024 |
| Version # | 03 |
| Disclaimer | <p>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. Ergon Armor cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user’s responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.</p> |
| Revision information | <p>This document has undergone significant changes and should be reviewed in its entirety.</p> |