

Safety Data Sheet



Product name:

Chemsorb® I202

Document N°: LB01-00413

Issue: 1

Revision date: 30 August 2021

Compiled in accordance with REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
Prepared according to GB CLP which is the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain

| 1 SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING | | |
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| 1.1 | Product identifier | Substance name: Chemsorb I202 |
| | Unique formulation identifier (UFI) | KV00-X0JA-N006-0V6Q |
| 1.2 | Relevant identified uses of the substance or mixture and uses advised against | Relevant identified uses: As a gas adsorbent (e.g., breathing air respirators) Uses advised against: No data Reason why uses advised against: No data |
| | Details of the supplier of the safety data sheet | Molecular Products Ltd Parkway, Harlow Business Park, Harlow, Essex, CM19 5FR, UK +44 (0)1279 445111 (1) (1) Only available during office hours 0900 – 1700 GMT |
| 1.4 | Emergency telephone number | +44 1865 407333 (24-hour, English speaking) +86 532 8388 9090 (China NRCC) +52 555 004 8763 (Mexico) +56 225 829 336 (Chile) +55 11 3197 5891 (Brazil) |

| 2 SECTION 2: HAZARDS IDENTIFICATION | | | | |
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| 2.1 Classification of the substance or mixture | | | | |
| 2.1.1 Classification according to Regulation (EC) No 1272/2008 (CLP) | | | | |
| | Skin corrosion Cat. 1 | | H314 | |
| | STOT RE 2 | | H373 | |
| 2.2 Label elements | | | | |
| 2.2.1 Labelling in accordance with EC Regulation No 1272/2008 (CLP) | | | | |
| Hazard pictogram | | | Signal word | DANGER |
| Hazard statements | | | | |
| | H314 | Causes severe skin burns and eye damage | | |
| | H373 | May cause damage to thyroid gland through prolonged or repeated exposure via oral route. | | |
| Precautionary statements | | | | |
| | P260 | Do not breathe dust/fume/gas/mist/vapours/spray. | | |
| | P264 | Wash face and hands thoroughly after handling. | | |
| | P280 | Wear protective gloves/protective clothing/eye protection/face protection. | | |
| | P301+P330+P331 | IF SWALLOWED: rinse mouth. Do NOT induce vomiting. | | |
| | P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. | | |
| | P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. | | |
| | P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing | | |
| | P310 | Immediately call a POISON CENTER/doctor | | |
| | P314 | Get medical advice/attention if you feel unwell. | | |
| | P321 | Specific treatment (see advice on the label). | | |
| | P363 | Wash contaminated clothing before reuse. | | |
| | P405 | Store locked up. | | |
| | P501 | Dispose of contents/container in accordance with local regulations | | |
| Supplemental Hazard information (EU): No data | | | | |
| 2.3 Other hazards | | | | |

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| | The product contains substances that have a workplace exposure limit (WEL) |
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| 3 | SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS | | | | | | | |
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| 3.2 | Mixtures | | | | | | | |
| | Chemical characterisation | Activated carbon virgin coconut shell plus additives | | | | | | |
| | Substance name | EC No | CAS No | Index No. | REACH Registration No. | Classification according to Regulation (EC) No 1278/2008 (CLP) | % [weight] | SCL, M-factor, ATE |
| | Activated Carbon. | 931-328-0 | 7440-44-0 | No data | 01-2119488894-16-0000 | Not classified | 80-85% | No data |
| | Potassium hydroxide | 215-181-3 | 1310-58-3 | 019-002-00-8 | 01-2119487136-33-XXXX | H290: May be corrosive to metals Acute Tox. 4 H302 Skin Corr. 1A H314 | <5% | No data |
| | Potassium iodide | 231-659-4 | 7681-11-0 | No data | 01-2119906339-35-XXXX | STOT RE 1 (oral); H372 | <3% | No data |

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| 4 | SECTION 4: FIRST AID MEASURES | | | | | | | |
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| 4.1 | Description of first aid measures | | | | | | | |
| | General notes | | | | | | | |
| | Following inhalation | Remove casualty to fresh air. If necessary, seek medical advice. | | | | | | |
| | Following skin contact | Immediately clean areas of skin affected with soap and plenty of water. If necessary, seek medical advice | | | | | | |
| | Following eye contact | Immediately wash out eye thoroughly with plenty of water until irritation subsides; if necessary, consult an eye specialist/ophthalmologist | | | | | | |
| | Following ingestion | If victim is conscious, immediately give 2 to 4 glasses of water and induce vomiting by touching fingers to back of throat. Get immediate medical attention. | | | | | | |
| | Self-protection of the first aider | Wear PPE | | | | | | |
| 4.2 | Most important symptoms and effects, both acute and delayed | None known | | | | | | |
| 4.3 | Indication of any immediate medical attention and special treatment needed | Treat Symptomatically. | | | | | | |

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| 5 | SECTION 5: FIRE FIGHTING MEASURES | | | | | | | |
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| 5.1 | Extinguishing media | Suitable extinguishing media: Use dry chemical, foam, or carbon dioxide to extinguish fire. Water may be ineffective but should be used to cool fire-exposed containers, structures and to protect personnel. Use water to dilute spills and to flush them away from sources of ignition. To suit local surroundings (e.g., water spray, carbon dioxide, foam or chemical powder) Unsuitable extinguishing media: No data | | | | | | |
| 5.2 | Special hazards arising from the substance or mixture | High dust levels in air may presents an explosion hazard and which may be ignited by sparks, flame or static discharge Hazardous combustion products: None known | | | | | | |
| 5.3 | Advice for fire fighters | Exposed firefighters must wear NIOSH-approved positive pressure self-contained breathing apparatus with full-face mask and full protective clothing. Cool down the containers and equipment exposed to heat with a water spray. | | | | | | |

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| 6 | SECTION 6: ACCIDENTAL RELEASE MEASURES | | | | | | | |
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| 6.1 | Personal precautions, protective equipment and emergency procedures | For non-emergency personnel: - Protective equipment: Adhere to personal protective measures. Avoid inhalation of dust - Emergency procedures: No data For emergency responders: Adhere to personal protective measures. Avoid inhalation of dust | | | | | | |
| 6.2 | Environmental precautions | Do not allow to get into wastewater or waterways; if this occurs, inform the relevant water authority at once | | | | | | |
| 6.3 | Methods and materials for containment and cleaning up | For containment: For cleaning up: In the event of spillage, take up mechanically (e.g., sweep or vacuum up) into tightly closed containers. Other information: Adhere to personal protective measures. Flush any remainder with plenty of water. Label container and dispose of as prescribed | | | | | | |
| 6.4 | Reference to other sections | See section 8 for personal protective equipment | | | | | | |

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| 7 | SECTION 7: HANDLING AND STORAGE | | | | | | | |
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| 7.1 | Precautions for safe handling | Protective measures: Handle in accordance with good hygiene and safety practice. Keep away from incompatible materials. Wet activated carbon removes oxygen from air causing a severe hazard (oxygen deficient atmosphere) to workers inside carbon vessels and enclosed or confined spaces. Establish Confined Space Entry Procedures before entering | | | | | | |
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| | | Measures to prevent fire: No data Measures to prevent aerosol and dust generation: No data Measures to protect the environment: No data Advice on general occupational hygiene: No data |
| 7.2 | Conditions for safe storage, including any incompatibilities | Technical measures and storage conditions: No data Packaging materials: No data Requirements for storage rooms and vessels: Ensure adequate ventilation of the storage area. Keep containers tightly closed, cool and dry Storage class: - Further information on storage conditions |
| 7.3 | Specific end use(s) | Recommendations: As a gas adsorber Industrial sector specific solutions: No data |

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| 8 | SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION |
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| 8.1 Control Parameters | | | | | | | | | |
| Workplace Exposure Limits (WELs) have been assigned by the HSE (EH40/2020) | | | | | | | | | |
| LTEL (8 hours) | | ppm | 10 | mg/m ³ | Inhalable dust | | | | |
| LTEL (8 hours) | | ppm | 4 | mg/m ³ | Respirable dust | | | | |
| STEL (15 mins) | | ppm | 2 | mg/m ³ | Potassium hydroxide | | | | |
| Substance name | | Activated Carbon | | | | | | | |
| EC number | | 231-153-3 | | | CAS number | | 7440-44-0 | | |
| DNELs (No data, not classified as toxic) | | | | | | | | | |
| Workers | | | | | Consumers | | | | |
| Route of exposure | Acute effect local | Acute effects systemic | Chronic effects local | Chronic effects systemic | Acute effects local | Acute effects systemic | Chronic effects local | Chronic effects systemic | |
| Oral | Not required | | | | No data | No data | No data | No data | |
| Inhalation | No data | No data | No data | No data | No data | No data | No data | No data | |
| Dermal | No data | No data | No data | No data | No data | No data | No data | No data | |
| PNECs (No data, not classified for aquatic toxicity) | | | | | | | | | |
| Environmental protection target | | | | | PNEC | | | | |
| Fresh water | | | | | No data | | | | |
| Freshwater sediments | | | | | No data | | | | |
| Marine water | | | | | No data | | | | |
| Marine sediments | | | | | No data | | | | |
| Food chain | | | | | No data | | | | |
| Microorganisms in sewage treatment | | | | | No data | | | | |
| Soil (agriculture) | | | | | No data | | | | |
| Air | | | | | No data | | | | |
| Substance name | | Potassium hydroxide | | | | | | | |
| EC number | | 215-181-3 | | | CAS number | | 1310-58-3 | | |
| DNELs | | | | | | | | | |
| Workers | | | | | Consumers | | | | |
| Route of exposure | Acute effect local | Acute effects systemic | Chronic effects local | Chronic effects systemic | Acute effects local | Acute effects systemic | Chronic effects local | Chronic effects systemic | |
| Oral | Not required | | | | No data | No hazard identified | No data | No hazard identified | |
| Inhalation | No hazard identified | No hazard identified | 1 mg/m ³ | No hazard identified | No hazard identified | No hazard identified | 1 mg/m ³ | No hazard identified | |
| Dermal | High hazard, no threshold derived. | No hazard identified | High hazard, no threshold derived | No hazard identified | No hazard identified | No hazard identified | No hazard identified | No hazard identified | |
| PNECs | | | | | | | | | |
| Environmental protection target | | | | | PNEC | | | | |
| Fresh water | | | | | No data available: testing technically not feasible | | | | |
| Freshwater sediments | | | | | No exposure of sediment expected | | | | |
| Marine water | | | | | No data available: testing technically not feasible | | | | |
| Marine sediments | | | | | No exposure of sediment expected | | | | |
| Food chain | | | | | No potential for bioaccumulation. | | | | |
| Microorganisms in sewage treatment | | | | | No data available: testing technically not feasible | | | | |

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| | Soil (agriculture) | | | | No exposure of soil expected | | | |
| | Air | | | | No hazard identified | | | |
| Substance name | | Potassium iodide | | | | | | |
| EC number | | 231-659-4 | | | CAS number | | 7681-11-0 | |
| DNELs | | | | | | | | |
| | Workers | | | | Consumers | | | |
| Route of exposure | Acute effect local | Acute effects systemic | Chronic effects local | Chronic effects systemic | Acute effects local | Acute effects systemic | Chronic effects local | Chronic effects systemic |
| Oral | Not required | | | | No data | 0.01 mg/kg bw/day | No data | 0.01 mg/kg bw/day |
| Inhalation | Hazard unknown | Hazard unknown | Hazard unknown | 0.07 mg/m ³ | No hazard identified | Hazard unknown | Hazard unknown | 0.035 mg/m ³ |
| Dermal | No hazard identified | Hazard unknown | No hazard identified | 1 mg/kg bw/day | No hazard identified | Hazard unknown | No hazard identified | 1 mg/kg bw/day |
| PNECs | | | | | | | | |
| Environmental protection target | | | | | PNEC | | | |
| Fresh water | | | | | 0.007 mg/L | | | |
| Freshwater sediments | | | | | 0.007 mg/kg sediment dw | | | |
| Marine water | | | | | No data: aquatic toxicity unlikely | | | |
| Marine sediments | | | | | Insufficient hazard data available | | | |
| Food chain | | | | | 0.3 mg/kg food | | | |
| Microorganisms in sewage treatment | | | | | No data: aquatic toxicity unlikely | | | |
| Soil (agriculture) | | | | | No exposure of soil expected | | | |
| Air | | | | | No hazard identified | | | |
| 8.2 Exposure controls | | | | | | | | |
| Appropriate engineering controls | | Substance/mixture related measures to prevent exposure during identified uses: Structural measures to prevent exposure: Provide adequate ventilation (e.g., local exhaust ventilation) Organisational measures to prevent exposure: No data Technical measures to prevent exposure: No data | | | | | | |
| Personal protection equipment | | Observe normal standards for handling chemicals Wash hands before breaks and after work. Avoid raising dust Wear personal protective equipment appropriate to the task (see below) | | | | | | |
| Eye and face protection | | Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as EN 166(EU). | | | | | | |
| Skin protection | | Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves must satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M) Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M) Other skin protection: Protective overalls | | | | | | |
| Respiratory protection | | Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as CEN (EU). | | | | | | |
| Thermal hazards | | No data | | | | | | |
| Environmental exposure controls | | Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided | | | | | | |

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| 9 SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES | | | | |
| 9.1 Information on basic physical and chemical properties | | | | |
| Physical state | Amorphous solid | | Colour | Black |
| Odour | Odourless | | pH | 9.0 |
| Boiling pt/range | 4000°C | | Melting point/freezing point | Not determined |
| Flash point | Not determined | | Relative density | 0.47-0.52 g/ml |
| Solubility | insoluble | | Decomposition temperature | No data |
| Evaporation rate | No data | | Flammability | No data |
| Lower and upper explosion limit | No data | | Vapour pressure | No data |
| Relative vapour density | No data | | Partition coeff. LogPoct/water | No data |
| Auto-ignition temperature | No data | | Kinematic viscosity | No data |
| Explosive properties | No data | | Oxidising properties | No data |

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| | Particle characteristics | No data | |
| 9.2 | Other information | None known | |


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| 10 | SECTION 10: STABILITY AND REACTIVITY | | |
| 10.1 | Reactivity | Stable under normal conditions of handling | |
| 10.2 | Chemical stability | Stable under normal conditions of handling | |
| 10.3 | Possibility of hazardous reactions | Hazardous polymerisation will not occur | |
| 10.4 | Conditions to avoid | Heat - high temperatures | |
| 10.5 | Incompatible materials | Strong oxidizers, strong acid salts of alkaloids, chloral hydrate, mercurous chloride, potassium chlorate, bromine trifluoride, chlorine trifluoride, fluorine and metals | |
| 10.6 | Hazardous decomposition products | Acrid smoke and irritating fumes - oxides of carbon, potassium and iodide | |

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| 11 | SECTION 11: TOXICOLOGICAL INFORMATION | | | | | | |
| 11.1 | Information on hazard classes as defined in Regulation (EC) No 1272/2008 | | | | | | |
| | Hazard class | Method | Species | Route of exposure | Effective dose | Exposure time | Results |
| | Acute toxicity (Data for activated carbon) | LD ₅₀ | Rat | oral | >10,000 mg/kg | No data | No data |
| | | LC ₅₀ | Rat | inhale | >64,000 mg/m ³ | No data | No data |
| | Acute toxicity (Data for potassium hydroxide) | LD ₅₀ | rat | Oral | 273 – 1,230 mg/kg | No data | No data |
| | Skin corrosion/irritation | Highly corrosive | | | | | |
| | Serious eye damage/irritation | Highly corrosive | | | | | |
| | Respiratory or skin sensitisation | Not classified for sensitisation | | | | | |
| | Germ cell mutagenicity | Not mutagenic | | | | | |
| | Carcinogenicity | Not carcinogenic | | | | | |
| | Reproductive toxicity | Not reprotoxic | | | | | |
| | Summary of evaluation of the CMR properties | None of the constituents of this product have been classified as a CMR. | | | | | |
| | STOT-single exposure | Not STOT-SE | | | | | |
| | STOT-repeated exposure | Potassium iodide classified as STOT RE I | | | | | |
| | Aspiration hazard | No data | | | | | |
| 11.2 | Information on other hazards | | | | | | |
| | This product is not a sensitiser and not expected to cause long-term adverse health effects, any mutagenic effects or reproductive or developmental health effects | | | | | | |

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| 12 | SECTION 12: ECOLOGICAL INFORMATION | |
| 12.1 | Toxicity (None of the constituents of this product have been classified for ecotoxicity) | |
| | Acute (short-term) toxicity: | Fish: No data Crustacea: No data Algae/aquatic plants: No data Other organisms: No data |
| | Chronic (long-term) toxicity | Fish: No data Crustacea: No data Algae/aquatic plants: No data Other organisms: No data |
| 12.2 | Persistence and degradability | Abiotic Degradation: no data Physical- and photo-chemical elimination: No data Biodegradation: No data |
| 12.3 | Bioaccumulative potential | Partition coefficient n-octanol /water (log Kow): No data Bioconcentration factor (BCF): No data |
| 12.4 | Mobility in soil | Known or predicted distribution to environmental compartments: No data Surface tension: No data Adsorption/Desorption: No data |
| 12.5 | Results of PBT and vPvB assessment | Not applicable |
| 12.6 | Endocrine disrupting properties | Not determined |
| 12.7 | Other adverse effects | None known |

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| 13 | SECTION 13: DISPOSAL CONSIDERATIONS | |
| 13.1 | Waste treatment methods | |
| | Product/ Packaging disposal | If possible, recycle to supplier or approved recycling company. If not (e.g., designated as waste), dispose of in accordance with national and local authority regulations, e.g. The Hazardous Waste (England & Wales) Regulations 2005. Material is a special waste under UK legislation. Treat empty containers in the same way as the |

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| | | product. If possible, wash out thoroughly and recycle Waste codes/ waste designations according to LoW: No data |
| | Waste treatment-relevant information | No information |
| | Sewage disposal-relevant information | No information |
| | Other disposal recommendations | No information |

| 14 SECTION 14: TRANSPORT INFORMATION | | | | | |
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| 14.1 | UN number | 3262 | 14.2 | UN proper shipping name | CORROSIVE SOLID, BASIC, INORGANIC, N.O.S. |
| 14.3 | Transport hazard class(es) | 8 | 14.4 | Packing group | III |
| 14.5 | Environmental hazards | Not classified | 14.6 | Special procedures for user | No data |
| 14.7 | Maritime transport in bulk according to IMO instruments | Not applicable | | |  |

| 15 SECTION 15: REGULATORY INFORMATION | |
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| 15.1 | Safety, health and environmental regulations/ legislation specific for the substance or mixture |
| | In accordance with the EC Regulation 1272/2008 (CLP) the product is classified. Other regulatory information and provisions are not applicable for this product |
| 15.2 | Chemical safety assessment |
| | Not applicable |

| 16 SECTION 16: OTHER INFORMATION | |
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| Indication of changes | The classification has changed from H315, Skin irrit 2; H319, Eye irrit 2 to Skin corr. 1, H314 and STOT RE 2, H373. The REACH dossier has changed classification the for potassium iodide from Eye irrit 2 H319 to STOT RE1, H372. |
| Abbreviations and acronyms | None |
| Key literature references and sources for data | Other suppliers' safety data sheets, Annex VI of the CPL Regulation (EC) No 1272/2008, EH40 (2011) |
| Prepared by | Dr Patricia Wormald, Molecular Products, PW@molprod.com Neil Stearn, Cambridge Environmental Assessments; neil.stearn@cea-res.co.uk |
| Date of issue | 30 August 2021 |
| Classification according to Regulation (EC) No 1272/2008 | |
| Classification according to Regulation (EC) No 1272/2008 | Classification procedure |
| Skin corr. 1; H314 | |
| STOT RE 2; H373 | |
| Relevant H-statements (number and full text) | H302, Harmful if swallowed H314; Causes severe skin burns and eye damage H315, Causes skin irritation H319, Causes serious eye irritation H372; Causes damage to thyroid gland through prolonged or repeated exposure via oral route. H373; May cause damage to thyroid gland through prolonged or repeated exposure via oral route. |
| Training advice | None |
| Further information | The SDS has been prepared in accordance with EC Regulation 1272/2008 (CLP). This information is based on our present state of knowledge and is intended to describe our products from the point of view of the safety requirements. It should not be construed as guaranteeing specific problems |