SAFETY DATA SHEET

MULTIMEDIA ADSORBENT (Carbon activated base)

CLARISORB

Section 1	Product ID and Manufacturer information

Identification of the substance	Multimedia Adsorbent (Carbon activated base)
Synonyms:	Clarisorb
Recommended use:	Purification processes, to remove color, smell and taste through an adsorption process.
Restrictions on use:	No information available
Manufacturer information:	CLARIMEX, S.A. de C.V. Km. 26 Carretera Jorobas-Tula, Parque Industrial de Tula, C.P. 42970 Atitalaquia, Hidalgo, México.
Sales Phone:	(+52 55) 5390 8711
Plant Phone:	(+52 778) 738 0153 to 55
Emergency telephones:	
SETIQ (MEXICO)	800-00-214-00
CHEMTREC (USA & CANADA)	1-800-262-8200 (Within the U.S.) or +1 703-741-5500 (from anywhere in the world)

Product Name: (Applicable to products packed in less than 450 litres volume)

CLARISORB A, B, BN, B FR, C, D, E, E pH5, M, MB, S50, F-046, DFR, R6, R7, S, FILTER CLERE 342 F.

Section 2	Hazards Identification

1.- Classification of the substance or mixture:

Activated carbon is listed in the dangerous goods list issued by the UN under No. 1362, however, it is not considered a hazardous material because it passes the test established in IMDG section 33.3.1.3.3 and ADR section 2.2.42.1 .5 (c), which is NOT a hazardous material.
It is not a dangerous substance according to Regulation (EC) No 1272/2008 (CLP), its various amendments and adaptations.

2.-Signaling elements:

I. Identification of the sustance: Activated carbon.

II. Pictogram: None

III. Warning words: None

IV. Hazard identification code H: None

V. Caution identification code P: None

3.-Other hazards which do not contribute to classification:

Odorless black granules or powder. Avoid contact with skin and eyes. Avoid breathing dust. Activated carbon (especially when wet) can reduce oxygen from air in confined spaces.

Section 3	Composition / Information of ingredients

Chemical Name	Synonym	No. CAS	UN	% by weight
Activated carbon	Activated carbon	7440-44-0	1362 *	20–75
Water	Water	7732-18-5	NA	25–80
Trade secret	Trade secret	Propietary	NA	0–20
Cellulose fiber	Cellulose fiber	9004-34-6	NA	0–20
Anionic Exchange resin	Anionic Exchange resin	Propietary	NA	0–20

* See section 2

Section 4	First aid measures

1.-Description of first aid:

Eye contact: Flush eyes immediately with large amounts of water. Seek medical attention if symptoms develop.

Skin Contact: Wash thoroughly with soap and water. Seek medical attention if symptoms develop.

Inhalation: Stay in an area with fresh air consult your docotr in case of cough or respiratory problems.

Ingestion: Drink one or two glasses of water, consult a doctor in case of gastrointestinal problems.
(Never give anything when the person is unconscious).

I.-Request immediate medical attention if symptoms appear.
II.-Move the exposed person to a place where they can breathe uncontaminated air.
III.- Does not require removal of the exposed person's clothing and footwear, it will only be done for cleaning.
IV.- It is recommended to have trained personnel to provide first aid, following the instructions indicated in the procedure to follow according to each route of entry to the agency.

2.-Most acute and chronic symptoms and effects:

When the activated charcoal is wet it can reduce the oxygen of the air in a confined space so the level of oxygen and carbon monoxide present should be evaluated to avoid symptoms of suffocation.

3.- Indications of the need to receive immediate medical attention and, where appropriate, special treatment.
Treat symptomatically.

Section 5	Fire fighting measures

1.- Suitable extinguishing media: Use dry chemical, carbon dioxide, foam or water spray. If water is used, spray or mist. It is important to avoid high pressure media that could cause the formation of an air-dust mixture that can spread the fire.

2.- Specific hazards of the substance or mixture: In case of fire, combustion may produce fumes of carbon monoxide. It is recommended to maintain a separation between pallets to reduce the risk of spreading the event. Activated carbon does not readily ignite and tends to smolder without producing flames, but flames could result due to the product packaging.

3.- Special measures to be taken by fire fighting groups: In case of fire, personnel who go to extinguish it must wear the appropriate personal protective equipment, which includes self-contained breathing apparatus. Do not use jets of water as they may disperse the fire material and spread the fire.

Section 6	Measures to be taken in the event of accidental spillage or leakage

1.-Personal precautions, protective equipment and emergency procedures:

I.- Use appropriate personal protective equipment to protect clothing, skin, eyes and respiratory system.
II.- Eliminate sources of combustion and provide sufficient ventilation.
III.- Apply the emergency procedure indicated in the Emergency Response Plan in force in the company.

2.-Environmental precautions:

No special environmental precautions are required.

3.-Methods and materials for the containment and cleaning of spills or leaks:

Activated carbon is a solid product in powdered or granular form, avoiding dry sweeping, some absorbent material may be used as wet sawdust to sweep and clean the affected area. Do not create dust clouds using a brush or compressed air, preferably use vacuum cleaning systems. Unused (spilled) charcoal can be recovered or disposed of in an approved facility for nonhazardous waste. In the case of spent or used coal, it should be confined in accordance with applicable regulations for non-hazardous wastes. Spent (used) carbon should be disposed of in accordance with applicable laws. Do not reuse empty bags: dispose of in a facility permitted for non-hazardous wastes.

Section 7	Handling and Storage

1.-Precautions to be taken to ensure safe handling:

I.- Follow good handling and storage practices to minimize spillage, dust generation in the air, and dust accumulation on exposed surfaces. Provide adequate ventilation. Use respirators, gloves and goggles to prevent or minimize exposure to dust. Wash exposed areas of skin with soap and water after handling.

II.- During handling and storage, indicate the general industrial hygiene recommendations: "no eating, drinking or smo king in work areas", "wash hands after handling product", "keep activated carbon containers closed".

2.-Conditions of safe storage, including any incompatibility:

The following conditions are recommended for the storage and handling of activated carbon.

I.- Storage temperature: Ambient
II.-Storage pressure: Atmospheric
III.-Activated charcoal is a stable product and therefore does not require any product for stabilization.
IV. Consider ventilation conditions to avoid oxygen deficiencies. Storage should be kept away from direct sources of heat or fire, oxidants such as ozone, liquid oxygen, chlorine, permanganate, as well as any strong oxidizing agents and strong acids due to their incompatibility.

Section 8	Exposure controls / Personal Protection

1.- Exposure guidelines

I.- Exposure limits for activated carbon as stated in Mexican Official Standard NOM-010-STPS-2014 is listed below.

Permissible Exposure limit (8 hr) - Time Weighted Average	Activated Carbon
Total inhalable dust	10 mg/m3
Respirable dust	2 mg/ m3

2.-Appropriate technical controls:

I.- Keep activated carbon concentrations in the working environment below the 8-hour exposure limit established in NOM-010-STPS-2014.

II.-Provide the natural or mechanical ventilation necessary to comply with the suggested control limit.

3.-Personal protective measures, such as personal protective equipment, PPE

Wear safety glasses or googles and use eyewash equipment during exposure to activated carbon dust (contact lenses not recommended). Use appropriate respiratory equipment approved by the applicable safety regulation. Avoid contact with skin. Wear suitable dust-resistant clothing, wash before reuse. Wash skin thoroughly after handling material.

Section 9	Physical and chemical properties

Appereance: Granules or powder of black color, solid.

Odor: Odorless

Odor threshold: ND

pH: NA

Melting point/freezing point: NA

Boiling point/boiling range: NA

Evaporation rate: NA

Flash point: NA

Flammability (solid, gas): ND

Upper Flammable / Explosive Limit: NA

Lower Flammable or Explosive Limit: NA

Upper limit: ND

Vapor pressure (mmHg at 20 ° C): ND

Vapor Density: NA

Relative Density: 0.18 to 0.50 g / cc

Solubility in water: Insoluble

Partition Coefficient: NA

Spontaneous ignition temperature: ND

Decomposition temperature (° C): ND

Viscosity: ND

Molecular weight: 12

Percentage of volatility: NA

Classification of the dust exposure: ND

Section 10	Stability and Reactivity

Reactivity: This product is considered stable under specific conditions of use, storage and shipment.

Chemical Stability: Activated carbon is stable under normal ambient conditions of pressure and temperature so it does not require stabilizing or inhibiting substances to remain stable.

Possibility of hazardous reactions: Activated carbon is a chemically stable product and therefore does not react or polymerize, releases excess pressure or generates other hazardous conditions.

Conditions to avoid: During storage avoid extreme heat and high humidity.

Incompatible materials: Contact with strong oxidants such as ozone, liquid oxygen, chlorine, permanganate may result in rapid combustion. Also avoid contact with strong acids.

Hazardous decomposition products: Carbon monoxide and carbon dioxide.

Section 11	Toxicological information

Acute toxicity: Not classified. There is no available data.

Skin corrosion/irritation: Not classified. There is no available data.

Serious eye damage/eye irritation: Not classified. There is no available data.

Sensitization: Not classified. Not sensitizing based on Local Lymph Node Assay (OCDE 429).

Mutagenicity: Not classified. There is no available data.

Carcinogenicity: Not classified. There is no available data.

Reproductive Toxicity: Not classified. There is no available data.

TSEOB - single exposure: Not classified. There is no available data.

TSEOB- repeated exposure: Not classified. There is no available data.

Aspiration Hazard: Based on industrial experience and available data, no aspiration hazard is expected.

Section 11 — Toxicological information

This material in its original state is non-toxic. The activated carbon used may exhibit the characteristics of the adsorbed material.

1.-Information on the possible routes of entry:

I.-Respiratory: This is the most common way of accessing the body in the working environment, since it is possible to breathe in solids in the form of dust, liquid in the form of vapor and gases mixed with air. Risks are not expected due to the entry of activated carbon.

II.-Dermal: The dermal entry factor is not compatible with activated carbon due to the characteristics of this material.

III.-Digestive tract: There is the possibility of entry of activated carbon by the digestive tract when eating in the work area, when the hands are not washed before eating the food even outside the workplace.

IV.-Parenteral route: This route of entry is through a pre-existing wound and could cause infections or skin irritation.

V.-Ocular: This route of entry is due to the lack of use of personal protective equipment and although the activated carbon is not corrosive, as any particulate material can cause from mild irritations to severe conjunctivitis.

2.-Symptoms related to the physical, chemical and toxicological characteristics: Based on industrial experience and available data, no adverse health effects are expected from exposure to activated carbon.

3.- Immediate and delayed effects, as well as chronic effects produced by short- and long-term exposure: Based on industrial experience and available data, adverse health effects from exposure to activated carbon are not expected.

4.-Numerical measures of toxicity (such as estimates of acute toxicity): No information is available.

5.-Interactive effects: The information is not available.

6.-When specific chemical data are not available: No specific data available.

Section 12 — Ecotoxicological information

Toxicity: Non toxic. The substance is highly insoluble in water and the substance is unlikely to cross biological membranes. No adverse ecotoxicologicals effects are known.

Persistence and degradability: Not expected to degrade

Bioaccumulation Potential: Not expected due to physicochemical properties of the substance.

Mobility on the ground : Not expected to migrate. Insoluble.

Other adverse effects: No information available.

Section 13 — Product Disposal Information

Disposal of wastes: Activated carbon, in its original state, is not a hazardous material or hazardous waste. Follow applicable regulations for waste disposal.

Spent (used) activated carbon may be classified as a hazardous waste depending upon its use, the substance(s) adsorbed, and how it is ultimately managed. Follow applicable regulations for disposal.

The formation of dust should be avoided from packaging waste and adequate protection of workers. Store used packaging material in confined containers. Recycling or reactivation is another viable alternative for disposal.

Section 14	Transport information

1.-UN number: See section 2.

2.-Official transport designation

I.-NOM-002-SCT-2011. The determination for official designation for transportation must be made according to what is indicated in tables 1 and 2 of the official Mexican norm mentioned.

II.-DOT Department of the United States of North America

III.-And the following official unregulated transport designations: ADR (land), RID (rail), ICAO (air), IATA (air), IMDG (maritime)

IV.-MARPOL (maritime): International agreement

3.-Class (es) relating to transport: NA

4.-Packing group: NA

5.-Environmental hazards: Activated carbon is not a known marine pollutant.

6.-Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: NA

7.-Special precautions for user: No special precautions

Section 15	Regulatory information

1.-Specific safety, health and environmental provisions for the chemicals or mixtures concerned:

Not classified as dangerous. There is no information that the product is subject to any protocol or international agreement.

2.-Specific safety, health and environmental provisions for the chemicals or mixtures concerned:

Hazard Classification

Mexico	NOM-018-STPS-2000 / 2015 : Not Hazardous
United States	OSHA (29 CFR 1910.1200): Not Hazardous
Canada	WHMIS Classification (CPR, SOR/88-66): Not controlled

Actived carbon is not restricted nor prohibited in Mexico and other countries where is traded.

Section 16	Other information including those relating to the preparation and updating of safety data sheets

1.- Description of abbreviations:

ND: Not determined

NA: Not applicable

CAS: Chemical Abstracts Service

RIT: Regulations on the International Transport of Dangerous Goods by Rail.

UN: Organization of the United Nations.

HDS: Safety Data Sheet

MARPOL: International Convention for the Prevention of Pollution from Ships.

SETIQ: Emergency service in the transportation of chemical industry.

ADR: European Agreement on the International Carriage of Dangerous Goods by Land.

OECD: Organization for Economic Cooperation and Development.

ICAO: International Civil Aviation Organization

IATA: International Air Transport Association

IMDG: International Maritime Dangerous Goods Code

This Safety data sheet complies with NOM-018-STPS-2015 Harmonized System for the Identification and Communication of Hazards and risks by Hazardous Chemicals in Workplaces, as well as NMX-R-019- SCFI-2011, Harmonized System of Classification and Communication of the chemicals products.

Version 18 (02/25/21): They are omitted from the list of products in section 1 to SR2, SR3, SR4, SR5, SR4 PLUS

Version 19 (06/17/21): CLARISORB SR4 is changed to CLARISORB SR5.

Version 20 (12/23/22): Update without changes.

Version 21 (04/03/23): Contact numbers are updated in section 01.

Version 22 (07/25/23): Clarisorb MB is attached and note in section 1.

NOTE: The information is believed to be correct but not exhaustive and for guidance only, which is based on current knowledge of the chemical or mixture and is applicable to the appropriate safety precautions for the product.