

Safety Data Sheet



Product name:

Chemsorb® I321

Revised edition no: 227 - Rev F

Date: 29 April 2022

Supersedes: Revision edition no: 227 – Rev E

1 PRODUCT AND COMPANY IDENTIFICATION	
Product Name	Chemsorb® I321
CAS Number	Mixture
Product Use	Impregnated Adsorbent
Supplier / Manufacturer's Name	Molecular Products Inc (a subsidiary of Molecular Products Group) 633 CTC Boulevard, Suite 200, Louisville, CO 80027, USA
Emergency Contact	+1 202 464 2554 US and Canada
Date of Initial Preparation	25 June 2002
Date of Previous Revision	1 April 2009

2 HAZARDS IDENTIFICATION	
Emergency Overview	This product is an amorphous black solid with no odor. Warning! Wet activated carbon removes oxygen from the air and can lower the concentration levels within confined spaces. Exposure can be irritating to eyes, respiratory system and skin. Harmful by inhalation and ingestion. It is a non-flammable solid. Excessive airborne dust creates a dust explosion hazard. The Environmental effects of this product have not been investigated; however this product may have adverse effects in the aquatic environment.
GHS Hazard Symbols	<p>Signal Word: Warning</p>
GHS Hazard Classification(s)	<p><i>Acute Oral Toxicity: Category 4</i> <i>Acute Aquatic Toxicity: Category 1</i></p>
Hazard Statement(s)	<p>H302: Harmful if swallowed H303 + H333: May be harmful if swallowed or if inhaled H315: Causes skin irritation H319: Causes eye irritation H335: May cause respiratory irritation H400: Very toxic to aquatic life</p>
Precautionary Statement(s)	<p>P264: Wash hands thoroughly after handling P270: Do not eat, drink or smoke when using this product P273: Avoid release to the environment P280: Wear protective gloves/protective clothing/eye protection/face protection P302+352: If on skin: wash with plenty of soap and water P301+312: If swallowed: contact a doctor if you feel unwell P305+351+338: If in eyes: rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. P321: Specific first aid treatment – see first aid section of SDS P330: Rinse mouth P362+364: Take off contaminated clothing and wash it before reuse P501: Dispose contents/containers in accordance with local/regional/national regulations</p>
Other Hazard Information	This product contains substances that have a workplace exposure limit (WEL). Please note that iodine is the hazardous component of this mixture and is adsorbed onto the activated carbon. Activated carbon does not pose a high health hazard and this product should not pose a high health hazard unless decomposed.

3 COMPOSITION AND INFORMATION ON INGREDIENTS			
Composition	Activated carbon, virgin coconut shell plus additives		
Substance name	Content	CAS No	Classification
Carbon, Activated	> 85%	7440-44-0	None
Potassium Iodide	< 4%	7681-111-0	Hazard Classification: [Xn] Harmful H302, H315, H319
Iodine	< 4%	7553-56-2	Hazard Classification: [Xn] Harmful H312 + H332, H315, H319, H335, H372, H400

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3 COMPOSITION AND INFORMATION ON INGREDIENTS

	Balance of other ingredients are non-hazardous or less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers).
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4 FIRST-AID MEASURES

	Contaminated individuals of chemical exposure must be taken for medical attention if any adverse effect occurs. Rescuers should be taken for medical attention if necessary. Take copy of label and/or SDS to health professional with contaminated individual.	
Eye Contact	If product enters the eyes, open eyes while under gently running water for at least 15 minutes. Seek medical attention.	
Skin Contact	Wash skin thoroughly after handling. Seek medical attention if irritation develops and persists. Remove contaminated clothing, launder before re-use.	
Inhalation	If breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention.	
Ingestion	If product is swallowed, call physician or poison control center for most current information. If professional advice not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Seek medical advice. Take a copy of the label and/or SDS with the victim to the health professional.	
Health Hazards or Risk from Exposure	<p><i>Acute:</i> Exposure to this product can be irritating to eyes, respiratory system and skin <i>Inhalation:</i> Avoid use in confined spaces. Wet activated carbon can adsorb and remove oxygen from the air causing a severe inhalation hazard to workers. Inhalation dust may cause nose, throat and respiratory tract irritation <i>Eye:</i> May cause mechanical irritation as well as possible chemical burns with pain and redness <i>Skin:</i> May cause irritation <i>Ingestion:</i> May cause irritation to gastrointestinal tract <i>Chronic:</i> May cause damage to the thyroid</p>	
Target Organs	<p><i>Acute:</i> Eye, Respiratory System, Skin <i>Chronic:</i> Thyroid</p>	
Medical Conditions Aggravated by Exposure	Pre-existing skin, respiratory system or eye problems may be aggravated by prolonged contact.	
Recommendations to Physicians	Treat symptoms and reduce over-exposure.	

5 FIRE-FIGHTING MEASURES

Flash Point	Non-Flammable	
Auto-Ignition Temperature	Not Applicable	
Flammable Limits (in air by volume, %)	<p><i>Lower (LEL):</i> Not Applicable <i>Upper (UEL):</i> Not Applicable</p>	
Fire Extinguishing Materials	As appropriate for surrounding fire. Carbon dioxide, foam, dry chemical, halon, or water spray. Do not release runoff from fire control methods to sewers or waterways.	
Unusual Fire and Explosion Hazards	High dust concentration may form explosive mixtures with air, which can be ignited by spark, flame or static discharge.	
Explosion Sensitivity to Mechanical Impact	Not Sensitive	
Explosion Sensitivity to Static Discharge	Sensitive (Air/Dust mixtures)	
Special Fire-Fighting Procedures	Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.	

6 ACCIDENTAL RELEASE MEASURES

Spill and Leak Response	Personnel should be trained for spill response	
Spill Response PPE	Coveralls, dust mask, safety glasses or goggles, nitrile gloves	

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6 ACCIDENTAL RELEASE MEASURES	
Clean up Procedure	Contain spill if safe to do so. Prevent entry into drains, sewers, and other waterways. Sweep, shovel or vacuum (HEPA vacuum) spilled material and place in an appropriate container for re-use or disposal. Avoid dust generation if possible. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations).

7 HANDLING AND STORAGE	
Work Practices and Hygiene Practices	<p>As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing dusts generated by this product. Use in a well-ventilated location. Remove contaminated clothing immediately. Do not enter places where bulk material is used or stored until adequately ventilated to prevent asphyxiation.</p> <p>As with all finely divided materials, precautions should be taken to avoid inhalation and eye contact. Ground all transfer, blending and dust collecting equipment to prevent static discharge in accordance with NFPA 70, "National Electric Code;" NFPA 499, "Recommended Practice for the Classification of Combustible Dusts and of Hazardous (classified) Locations for Electrical Installations in Chemical Process Areas;" NFPA 654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids" and OSHA Combustible Dust standards. Remove all ignition sources from material handling, transfer and processing areas where dust may be present.</p>
Storage and Handling Practices	<p>Containers of this product must be properly labeled. Store containers in a cool, dry location away from heat, flame and incompatible materials. Do not store product outside or in extreme heat. Do not store product in direct sunlight. Keep container tightly closed when not in use. Avoid buildup of static charge in handling equipment.</p> <p>Avoid handling the product in a manner that generates dust. Excessive airborne dust in an enclosed space may create a dust explosion hazard.</p>
Incompatible Materials	Avoid contact with strong oxidizing agents, strong acids.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION			
Exposure Limits/Guidelines	Either local exhaust or general room ventilation is usually required		
Chemical Name	CAS #	ACGIH TWA	OSHA TWA
Carbon, Activated	7440-44-0	10 mg/m ³ Dust	15 mg/m ³ Total Dust 5 mg/m ³ Resp
Potassium Iodine	7681-11-0	.01 ppm	Not Listed
Iodine	7553-56-2	0.1 ppm	0.1 ppm
Currently, International exposure limits are established for the components of this product. Please check with competent authority in each country for the most recent limits in place.			
Ventilation and Engineering Controls			
Use with adequate ventilation to ensure exposure levels are maintained below the limits provided above. Use local exhaust ventilation to control airborne dust. Ensure eyewash/safety shower stations are available near areas where this product is used.			
Personal Protective Equipment			
The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.			
Respiratory Protection	Maintain airborne contaminant concentrations below guidelines listed above, if applicable. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.		

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Eye protection	Safety glasses or chemical goggles are recommended. If necessary, refer to U.S. OSHA 29 CFR 1910.133 or appropriate Canadian Standards.	
Hand Protection	Use protective gloves to minimize skin contact. If necessary, refer to U.S. OSHA 29 CFR 1910.138 or appropriate Standards of Canada.	
Body Protection	Use body protection appropriate to prevent contact (e.g. lab coat, overalls). If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards.	

9 PHYSICAL AND CHEMICAL PROPERTIES		
Physical State	Amorphous solid	
Appearance and Odor	Black Solid with no odor	
Odor Threshold (PPM)	None	
Vapor Pressure (mmHg)	Not Applicable	
Vapor Density (AIR=1)	Not Applicable	
Density	0.4 – 0.6 g/ml	
Evaporation Rate (nBuAc=1)	Not Applicable	
Boiling Point (°C)	4000°	
Freezing Point (°C)	Not Applicable	
pH	No data available	
Specific Gravity 4° C (Water=1)	0.4 – 0.6	
Solubility in Water (%)	Insoluble	
VOC	0	
Upper Explosive Limit	Not Applicable	
Lower Explosive Limit	Not Applicable	
Flammability	Not Applicable	
Partition Coefficient	Not Applicable	
Decomposition Temperature	Not Determined	
Viscosity	Not Applicable	

10 STABILITY AND REACTIVITY		
Stability	Product is stable	
Decomposition Products	Thermal decomposition (burning) may produce irritating and toxic fumes of carbon (carbon dioxide, carbon monoxide), oxides of potassium and oxides of iodine. The exact chemicals formed depend on many factors including temperature and heating rate.	
Materials with which Substance is Incompatible	Avoid contact with strong oxidizing agents, strong acids.	
Hazardous Polymerization	Will not occur	
Conditions to Avoid	Contact with incompatible materials and dust generation	

11 TOXICOLOGICAL INFORMATION		
Toxicity: There is no available data for the product, only for the ingredients.		
CAS# 7440-44-0 LC50, Inhalation – Rat	>64,400 mg/m ³	
CAS# 7440-44-0 LD50, Oral – Rat	>10,000 mg/kg	
CAS# 7681-11-0 LD 50, Oral – Mouse	> 1,000 mg/kg	
CAS# 7553-56-2 LD 50, Oral – Rat	14,000 mg/kg	

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11 TOXICOLOGICAL INFORMATION		
CAS# 7553-56-2 LC 50, Inhalation – Rat	> 4.5 mg/l	
CAS# 7553-56-2 LC 50, Dermal – Rat	1,425 mg/kg	
Suspected Cancer Agent	None of the ingredients are found on the following lists: FEDERAL OSHA Z LIST, NTP, CAL/OSHA, IARC and therefore is not considered to be, nor suspected to be a cancer-causing agent by these agencies.	
Irritancy	Contact with this product can be irritating to exposed skin, eyes and respiratory system.	
Sensitization	This product is not considered a sensitizer.	
Reproductive Toxicity	No information concerning the effects of this product and its components on the human reproductive system.	
Health Hazards or Risks from Exposure	<p><i>Acute:</i> Exposure to this product can be irritating to eyes, respiratory system and skin <i>Inhalation:</i> Avoid use in confined spaces. Wet activated carbon can adsorb and remove oxygen from the air causing a severe inhalation hazard to workers. Inhalation dust may cause nose, throat and respiratory tract irritation <i>Eye:</i> May cause mechanical irritation as well as possible chemical burns with pain and redness <i>Skin:</i> May cause irritation <i>Ingestion:</i> May cause irritation to gastrointestinal tract <i>Chronic:</i> May cause damage to the thyroid</p>	
Target Organs	<p><i>Acute:</i> Eye, Respiratory System, Skin <i>Chronic:</i> Thyroid</p>	

12 ECOLOGICAL INFORMATION		
All work practices must be aimed at eliminating environmental contamination.		
Environmental Stability	The ecological characteristics of this product have not been fully investigated. The product should not be discharged unmonitored into the environment.	
Effect of Material on Plants or Animals	No evidence is currently available on this product's effects on plants or animals.	
Effect of Chemical on Aquatic Life	No Data Available for this product at this time.	
<i>Note: This product is readily biodegradable and is not expected to bio-accumulate</i>		

13 DISPOSAL CONSIDERATIONS		
Preparing Wastes for Disposal	Waste disposal must be in accordance with appropriate Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan. Use only appropriate containers for disposal and do not discharge any waste into the local water system.	

14 TRANSPORTATION INFORMATION		
U.S. DOT, IATA, IMO, and ADR	THIS PRODUCT* IS NOT HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION	
* Note: Carbons made by steam activation process are not subject to the provision of UN Class 4.2		
Proper Shipping Name	Non-Regulated Material	
Hazard Class Number and Description	Not Applicable	
U.N. Identification Number	Not Applicable	
Packing Group	Not Applicable	
DOT Label(s) Required	Not Applicable	
North American Emergency Response Guidebook Number (2004)	Not Applicable	
Marine Pollutant	None of the ingredients are classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B)	
This product is NOT considered spontaneously combustible under the "Self-Heating Test for Carbon" protocol listed in the United Nations' Manual of Tests and Criteria [33.3.1].		

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U.S. Department of Transportation (DOT) Shipping Regulations	This product is not classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.
Transport Canada, Transportation of Dangerous Good Regulation	This product is not classified as Dangerous Goods, per regulations of Transport Canada
International Air Transport Association (IATA)	This product is not classified as Dangerous Goods, by rules of IATA: Not restricted per Special Provision A3.
International Maritime Organization (IMO) Designation	This product is not classified as Dangerous Goods by the International Maritime Organization.
European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR)	This product is not classified by the United Nations Economic Commission for Europe to be dangerous goods.

15 REGULATORY INFORMATION	
United States Regulations	
SARA Reporting Requirements	This product is not subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act., as follows:
Toxic Control Substance Act (TCSA)	All components in this product are listed on the US Toxic Substances Control Act (TSCA) inventory of chemicals.
SARA 311/312	<i>Acute Health: Yes</i> <i>Chronic Health: No</i> <i>Fire: No</i> <i>Reactivity: No</i>
SARA 313	This product does not contain any components that exceed the reporting threshold established by SARA Title III, Section 313
U.S. SARA Threshold Planning Quantity	There are no specific Threshold Planning Quantities for this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.
U.S. CERCLA Reportable Quantity (RQ)	CERCLA Reportable Quantity (RQ), None.
Clean Water Act (CWA)	None of the chemicals in this product are listed as Hazardous Substances under the CWA.
State Regulations	CAS# 7553-56-2 can be found on the following state right to know lists: Massachusetts, New Jersey and Pennsylvania CAS# 7681-11-0 can be found on the following state right to know lists: New Jersey and Pennsylvania
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)	None of the ingredients are on the California Proposition 65 lists.
Canadian Regulations	
Canadian DSL/NDSL Inventory Status	All of the components of this product are on the DSL Inventory
Canadian Environmental Protection Act (CEPA) Priorities Substances Lists	No component of this product is on the CEPA First Priorities Substance Lists.

16 OTHER INFORMATION	
NFPA Ratings	HMIS Ratings
Code for Flammability: 0	Code for Flammability: 0
Code for Health: 2	Code for Health: 2
Code for Reactivity: 0	Code for Reactivity: 0
Code for Special Hazards: None	Code for Special Hazards: None
Prepared By	Molecular Products, Inc.
Disclaimer: The information in this safety data sheet is based on the best knowledge available at the time and current legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular application. As the specific conditions of use are outside the control of the supplier, the user is responsible for ensuring that the product is used in a safe way and in compliance with the relevant requirements of legislation.	

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