



CARULITE® 200 Granular Catalyst

**EC- SAFETY DATA SHEET according to Regulation (EC) № 1907/2006
of the European Parliament and of the Council, of 18 December 2006
concerning REACH**

MATERIAL SAFETY DATA SHEET

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MSDS # CP-032

Revision Date: July 2011

Supercedes: June 2009

Section 1 Chemical Product and Company Identification

PRODUCT NAME:	CARULITE® 200 Granular Catalyst		
TRADE NAME:	CARULITE® 200 Granular Catalyst		
SYNONYMS:	None		
USES OF SUBSTANCE: CARULITE® 200 Granular Catalyst is used for the destruction of ozone.			
COMPANY NAME: CARUS CORPORATION	COMPANY ADDRESS: INFORMATION:	315 Fifth Street, Peru, IL 61354, USA (815) 223-1500 (Tel) (815) 224-6816 (FAX) www.caruscorporation.com (Web) salesmkt@caruscorporation.com (Email)	EMERGENCY TELEPHONE: (800) 435-6856 (USA) (815) 223-1500 (Other countries) (800) 424-9300 (CHEMTREC®, USA) (703) 527-3887 (CHEMTREC®, Other countries)

Section 2 Hazards Identification

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS) RATINGS:	
Health Hazard	1
Flammability Hazard	0
Reactivity Hazard	0
Personal Protection Index	E
NATIONAL FIRE PROTECTION ASSOCIATION 704 (USA) NFPA HAZARD RATINGS:	
Health Hazard	1 = Materials which under fire conditions would give off irritating combustion products. (less than 1 hour exposure) 0 = Materials that on the skin could cause irritation.
Flammability Hazard	0 = Materials that will not burn.
Reactivity Hazard	0 = Materials which in themselves are normally stable, even under fire exposure conditions, and which are not reactive with water.
Special Hazard	None
EFFECTS OF ACUTE EXPOSURE	
1. Eye Contact:	May cause eye irritation.
2. Skin Contact:	May cause skin irritation or dehydrating of skin.
3. Inhalation:	May cause nose, throat and lung irritation.
4. Ingestion:	Irritating to mouth, throat and stomach.
EFFECTS OF CHRONIC EXPOSURE	
Prolonged inhalation of manganese compounds above the TLV-TWA may cause lung irritation or central nervous system disorders. The symptoms simulate Parkinson's disease.	
CARCINOGENICITY	
NTP: not listed.	IARC Monographs: not listed.
OSHA Regulated: not listed.	
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE	
Dust or fine powder may further irritate mucous membranes or open wounds.	



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Section 3 Composition and Information on Hazardous Ingredients

<u>Material</u>	<u>CAS No.*</u>	<u>EINECS No.*****</u>	<u>%</u>	<u>Hazard Data</u>
Manganese Dioxide	1313-13-9	215-202-6	40-70	PEL** C**** 5 mg Mn per cubic meter of air TLV-TWA*** 0.2 mg Mn per cubic meter of air
Copper Oxide	1317-38-0	215-269-1	15- 40	PEL** 1 mg Cu per cubic meter of air TLV-TWA*** 1mg Cu per cubic meter of air

* Chemical Abstract Service Number

** OSHA Permissible Exposure Limit, manganese compounds (as Mn), copper dusts and mists (as Cu), 29 CFR 1910.1000 Table Z-1.

*** American Conference of Governmental Hygienists, 2005. TLV-TWA = the time weighted average concentration for a normal 8-hour workday and a 40-hour work week, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect.

**** Ceiling Exposure Limit or maximum exposure concentration not to be exceeded under any circumstances.

***** European Inventory of Existing Chemical Substances

HAZARD SYMBOLS:



Xn

Xn : Harmful

RISK PHRASES:

20/22 Harmful by inhalation and if swallowed.

SAFETY PHRASES:

2 Keep out of the reach of children

25 Avoid contact with eyes

Section 4 First Aid Measures

EMERGENCY AND FIRST AID PROCEDURES

1. Eyes

Immediately flush eyes with large amounts of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface. Seek medical attention if irritation persists.

2. Skin

Flush contaminated areas with large amounts of water. Remove contaminated clothing. Wash clothing before reuse.

3. Inhalation

Remove person to fresh air. If breathing is difficult, administer oxygen. Seek medical attention.

4. Ingestion

Never give anything by mouth to an unconscious or convulsing person. If conscious, give large quantities of water. Do not induce vomiting. Seek medical attention



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Section 5 Fire Fighting Measures

The material itself is noncombustible but may accelerate the burning of combustible material.

FLASHPOINT None

FLAMMABLE OR EXPLOSIVE LIMITS Lower: Nonflammable. Upper: Nonflammable.

EXTINGUISHING MEDIA Use extinguishing medium appropriate for surrounding materials.

SPECIAL FIREFIGHTING PROCEDURES None

UNUSUAL FIRE AND EXPLOSION HAZARDS Should not be heated or rubbed in contact with organic matter or other oxidizable substances. Keep away from heat and flammable materials. Potentially an oxidizer under certain conditions.

Section 6 Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Clean up spills immediately by scooping CARULITE® 200 Granular Catalyst into a metal drum. Deactivate by soaking with water. Cover loosely. Flush contaminated floors with abundant quantities of water into sewer, if permitted by federal, state, or local regulations.

Section 7 Handling and Storage

Store in a cool, dry area in closed container. Segregate from easily oxidizable materials, peroxides, chlorates, and acids. Protect containers against physical damage.

Section 8 Exposure Controls and Personal Protection

VENTILATION REQUIREMENTS

Provide sufficient mechanical and/or local exhaust to maintain exposure levels below TLV-TWA limit for manganese.

RESPIRATORY PROTECTION

In cases where high dust exposure may exist, the use of NIOSH-MSHA dust and mist respirator or an air-supplied respirator is advised. Engineering or administrative controls should be implemented to control dust.

EYE PROTECTION

Primary eye protection (safety glasses or goggles).

GLOVES

Rubber or plastic gloves should be worn.

OTHER PROTECTIVE EQUIPMENT

Normal work clothing is sufficient.

Section 9 Physical and Chemical Properties

BOILING POINT, 760 mm Hg	Not applicable	VAPOR PRESSURE (mm Hg)	Not applicable
SOLUBILITY IN WATER % BY SOLUTION	Insoluble		
BULK DENSITY	Approximately 0.9 g/cc	PERCENT VOLATILE BY VOLUME	Not volatile
MELTING POINT	Starts to decompose with evolution of oxygen at 704°C (1300°F)		
APPEARANCE AND ODOR	Black granulated solid; odorless.		



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Section 10 Stability and Reactivity

STABILITY Stable under normal conditions. Moisture may reduce catalytic activity.

CONDITIONS TO AVOID Contact with incompatible materials or heat (704°C/1300°F).

INCOMPATIBLE MATERIALS Contact with peroxides and chlorates may cause violent reaction under certain conditions, such as elevated temperature or friction. May ignite organic material, especially organic solvents. May initiate polymerization of monomers. May form unstable acetylide in contact with acetylene.

HAZARDOUS DECOMPOSITION PRODUCTS None

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION Not known to polymerize.

Section 11 Toxicological Information

Most diagnosed cases of manganese toxicity in humans have been reported following long-term exposures to airborne concentrations of manganese above the TLV-TWA. The usual form of chronic manganese toxicity involves the central nervous system.

Reports of adverse effects in humans from ingestion of manganese are rare.

Section 12 Ecological Information

Inorganic manganese compounds have negligible vapor pressures but exist in air as suspended particulate matter, which settle under the influence of gravity.

The transport of manganese in water is influenced by the solubility of the form present. Insoluble forms, such as manganese dioxide, are transported as sediments.

The bioaccumulation of manganese in the food chain does not appear to be significant.

Section 13 Disposal Considerations

CARULITE® 200 Granular Catalyst is not considered a hazardous waste under 40 CFR 261. Dispose of deactivated CARULITE® 200 Granular Catalyst in a landfill approved to accept chemical waste, after verifying that it is not contaminated with hazardous substances through usage.

Section 14 Transport Information

USA (land, D.O.T.)	Proper Shipping Name: ID Number:	Manganese dioxide compound Not regulated
European Labeling in accordance Road/Rail Transport (ADR/RID)	Proper Shipping Name: ID Number:	Manganese dioxide compound Not regulated
European Labeling in accordance with EC directive (Water, I.M.O.)	Proper Shipping Name: ID Number:	Manganese dioxide compound Not regulated
European Labeling in accordance with EC directive (Air, I.C.A.O.)	Proper Shipping Name: ID Number:	Manganese dioxide compound Not regulated



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Section 15 Regulatory Information

US Federal Regulations

TSCA:

All components in this product are listed on the TSCA inventory.

Health & Safety Reporting List:

None of the chemicals in this product are on the Health & Safety Reporting List.

Chemical Test Rules:

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b:

None of the chemicals in this product are listed under TSCA Section 12b.

TSCA Significant New Use Rule:

None of the chemicals in this product have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs:

None of the chemicals in this product have an RQ.

SARA Section 302 Extremely Hazardous Substances:

None of the chemicals in this product have a TPQ.

SARA Codes:

CAS # 1313-13-9 and 1317-38-0; acute

SARA Section 313:

CARULITE® 200 Granular Catalyst contains manganese compounds (CAS Reg. No. N/A) and copper compounds (CAS Reg. No. N/A) as part of the mixture and is subject to the reporting requirements of Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 or Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

State:

CAS # 1313-13-9 is on the state lists from NJ.

FIFRA:

CAS# 1317-38-0 is found.

California Prop 65:

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives:

HAZARD SYMBOLS:

[Xn : Harmful](#)

RISK PHRASES:

20/22 Harmful by inhalation and if swallowed.

SAFETY PHRASES:

2 Keep out of the reach of children

25 Avoid contact with eyes



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WGK (Water Danger/Protection):

CAS# 1317-38-0: [VwVwS](#) (1) and [KBwS-Beschluss](#) (3)

Canada - DSL/NDSL:

CAS # 1313-13-9 and 1317-38-0 are listed on Canada's DSL List.

Canada – WHMIS:

None of the components in this product could be classified as hazardous in accordance with the hazard criteria of the Controlled Products Regulations.

Canadian Ingredient Disclosure List:

Manganese and copper compounds are listed on the Canadian Ingredient Disclosure List.

Japan Chemical Inventory List – METI

CAS # 1313-13-9 and 1317-38-0 are listed on Japan's METI List.

Australia Chemical Inventory List – AICS

CAS # 1313-13-9 and 1317-38-0 are listed on Australia's AICS List.

China Chemical Inventory List – IECSC CAS # 1313-13-9 and 1317-38-0 are listed on China's IECSC List.

Section 16 Other Information

Chithambarathanu Pillai (S.O.F.) July 2011

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CARUS CORPORATION, 315 5TH STREET, PERU, ILLINOIS 61354



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