Manganese Carbonate

Version number: 1.0

SECTION 1: Identification

1.1 Product identifier

Identification of the substance manganese carbonate

Trade name **Manganese Carbonate**

CAS number 598-62-9

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Animal feed additive
Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Valudor Products, LLC
179 Calle Magdalena Suite 100
Encinitas, California CA 92024
United States

Telephone: +1 (760) 635 8500
e-mail: info@valudor.com
Website: www.valudor.com

1.4 Emergency telephone number

Emergency information 800-535-5053 (Infotrac)

As above or nearest toxicological information centre.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

This substance does not meet the criteria for classification.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Not required.

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	manganese carbonate
Identifiers	
CAS No	598-62-9
Molecular formula	CH2O3.Mn
Molar mass	117 $^{g}/_{mol}$

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.
If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

Following eye contact

Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists.

Following ingestion

Rinse mouth. Do not induce vomiting.
Get medical advice/attention if you feel unwell.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

Following inhalation: Pneumonia.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

non-combustible, coordinate firefighting measures to the fire surroundings

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.
If heated: Danger of bursting container.

Hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO2)

5.3 Advice for firefighters

Keep containers cool with water spray.
In case of fire and/or explosion do not breathe fumes.
Coordinate firefighting measures to the fire surroundings.
Do not allow firefighting water to enter drains or water courses.
Collect contaminated firefighting water separately.
Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

wear self-contained breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Ventilate affected area.
Control of dust.
Do not breathe dust.
Do not get in eyes, on skin, or on clothing.
Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water.
Retain contaminated washing water and dispose of it.
If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Take up mechanically.

Advice on how to clean up a spill

Take up mechanically.
Collect spillage.

Other information relating to spills and releases

Place in appropriate containers for disposal.
Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.
Personal protective equipment: see section 8.
Incompatible materials: see section 10.
Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room.

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.
Remove contaminated clothing and protective equipment before entering eating areas.
Do not get in eyes, on skin, or on clothing.
Do not breathe dust.
Wash hands after use.
Preventive skin protection (barrier creams/ointments) is recommended.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards

None.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

heat

Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Store in a dry place. Store in a closed container.
Store in a well-ventilated place. Keep cool.

Packaging compatibilities

Keep only in original container.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Notation	Source
US	manganese compounds	-	PEL (CA)	-	0.2	-	-	Mn	Cal/OSHA PEL
US	manganese compounds	-	REL	-	1 (10 h)	-	3	Mn	NIOSH REL
US	manganese compounds	-	PEL	-	-	-	-	Mn	29 CFR 1910.1000
US	Particulates not otherwise regulated	-	PEL (CA)	-	10	-	-	dust	Cal/OSHA PEL
US	Particulates not otherwise regulated	-	PEL (CA)	-	5	-	-	r	Cal/OSHA PEL
US	particulates not otherwise classified	-	REL	-	-	-	-	appx-D	NIOSH REL
US	particulates not otherwise classified (PNOC)	-	PEL	1,766	15	-	-	partml, i, dust	29 CFR 1910.1000
US	particulates not otherwise classified (PNOC)	-	PEL	529.5	5	-	-	partml, r, dust	29 CFR 1910.1000

Notation

appx-D	see Appendix D - Substances with No Established RELs
dust	as dust
i	inhalable fraction
Mn	calculated as Mn (manganese)

Notation	
partml	particles/ml
r	respirable fraction
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified

8.2 Exposure controls

Appropriate engineering controls

Use local and general ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Hand protection

Protective gloves		
Material	**Material thickness**	**Breakthrough times of the glove material**
no information available	no information available	no information available

Wear suitable gloves.
Chemical protection gloves are suitable, which are tested according to EN 374.
Check leak-tightness/impermeability prior to use.
In the case of wanting to use the gloves again, clean them before taking off and air them well.

Body protection

Protective clothing for use against solid particulates.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.
Particulate filter device (EN 143).
P1 (filters at least 80 % of airborne particles, color code: White).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.
Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	solid
Form	powder
Color	light pink
Odor	odorless
Odor threshold	not determined

Other safety parameters

pH (value)	not applicable
Melting point/freezing point	>450 °C (EU method A.1)
Boiling point or initial boiling point and boiling range	not determined
Flash point	not applicable
Evaporation rate	not determined
Flammability (solid, gas)	non-combustible
Explosive limits	not determined
Explosion limits of dust clouds	not determined
Vapor pressure	not determined
Density	not determined
Relative density	3.7 (water = 1)
Relative vapour density	not applicable
Solubility(ies)	
Water solubility	0.004 $^{g}/_{l}$ at 20 °C (EU method A.6)
Partition coefficient	
n-octanol/water (log KOW)	not relevant (inorganic)
Auto-ignition temperature	not determined
Decomposition temperature	>200 °C

	Viscosity	not relevant (solid)
	Explosive properties	none
	Oxidizing properties	none
	Information for relevant hazard classes according to GHS	hazard classes acc. to GHS (physical hazards): not relevant
9.2	**Other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

This information is not available.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

Reacts with acids under vigorous gas release. Danger of splashing of acid.

10.4 Conditions to avoid

Protect from moisture.

10.5 Incompatible materials

acids, strong oxidizer

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

If not otherwise specified the classification is based on:

Animal studies; Evidence from any other toxicity tests; Expert judgment (weight of evidence determination).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

This substance does not meet the criteria for classification.

Acute toxicity

Shall not be classified as acutely toxic (oral).
Shall not be classified as acutely toxic (inhalation).

Exposure route	Endpoint	Value	Species	Method
oral	LD50	>2,000 $^{mg}/_{kg}$	rat, female	OECD Guideline 420
inhalation: dust/mist	LC50	>5.35 $^{mg}/_{l}$/4h	rat	OECD Guideline 403

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.
(EU method B.46, OECD Guideline 404)

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.
(OECD Guideline 405)

Respiratory or skin sensitization
Skin sensitization

Shall not be classified as a skin sensitizer.
(OECD Guideline 429)

Respiratory sensitization

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.
(OECD Guideline 471, OECD Guideline 473, OECD Guideline 476)

Carcinogenicity

IARC Monographs

not listed

National Toxicology Program (United States)

not listed

OSHA Carcinogens

Not listed.

Reproductive toxicity

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Other information

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method
LC50	96 h	3.17 $^{mg}/_{l}$	rainbow trout (Oncorhynchus mykiss)	-
EC50	48 h	>3.6 $^{mg}/_{l}$	daphnia magna	OECD Guideline 202
ErC50	72 h	>2.2 $^{mg}/_{l}$	algae (pseudokirchneriella subcapitata)	OECD Guideline 201

Aquatic toxicity (chronic)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method
EC50	8 d	2.5 $^{mg}/_{l}$	Ceriodaphnia dubia (water flea)	OECD Guideline 211
NOEC	48 h	3.6 $^{mg}/_{l}$	daphnia magna	OECD Guideline 202
NOEC	8 d	1.3 $^{mg}/_{l}$	Ceriodaphnia dubia (water flea)	OECD Guideline 211
NOEC	65 d	0.55 $^{mg}/_{l}$	Salvelinus fontinalis	OECD Guideline 210
NOEC	72 h	0.69 $^{mg}/_{l}$	algae (raphidocelis subcapitata)	OECD Guideline 201
LOEC	8 d	4.1 $^{mg}/_{l}$	Ceriodaphnia dubia (water flea)	OECD Guideline 211

12.2 Persistence and degradability

Biodegradation

The study does not need to be conducted because the substance is inorganic.

Persistence

The study does not need to be conducted because the substance is inorganic.

12.3 Bioaccumulative potential

No data available.

n-octanol/water (log KOW) not relevant (inorganic)

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Endocrine disrupting properties Other adverse effects

Not listed.

Remarks

None.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packages

Completely emptied packages can be recycled.
Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1	**UN number**	not assigned
14.2	**UN proper shipping name**	-
14.3	**Transport hazard class(es)**	-
14.4	**Packing group**	-
14.5	**Environmental hazards**	-
14.6	**Special precautions for user**	-
14.7	**Transport in bulk according to IMO instruments**	-

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information

Not subject to transport regulations.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA) Substance is listed as "ACTIVE"

Superfund Amendment and Reauthorization Act (SARA TITLE III)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

Not listed

Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings			
Name of substance	**Name acc. to inventory**	**Remarks**	**Effective date**
manganese carbonate	manganese compounds	-	1987-01-01

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Not listed

Clean Air Act

Not listed

Right to Know Hazardous Substance List

Cleaning Product Right to Know Act Substance List (CA-RTK)

Name of substance	Name acc. to inventory	Functional-ity	Authoritative Lists
manganese carbonate	Manganese and manganese com-pounds	-	ATSDR Neurotoxicants CA NLs CA TACs CDC 4th National Exposure Report CWA 303(d) IRIS Neurotoxicants OEHHA RELs

Toxic or Hazardous Substance List (MA-TURA)

Name of substance	Name acc. to inventory	DEP CODE	PBT / HHS / LHS	PBT / HHS Thres hold	De Minimis Concentra-tion Threshold
manganese carbonate	Manganese Compounds	1027	-	-	1.0 %

Hazardous Substances List (MN-ERTK)

Not listed

Hazardous Substance List (NJ-RTK)

Name of substance	Name acc. to inventory	Remarks	Classifications	Listed in	Substance number	DOT number
manganese carbonate	manganese compounds	-		1 2 4 6 18 20	2324	-

Legend

1 Occupational Safety and Health Administration, 29 CFR 1910-Occupational Safety and Health Standards, Subpart Z-Toxicand Hazardous Substances, July 1, 2008.

18 List of Toxics Release Inventory Chemicals, Section 313, Emergency Planning and Community Right to Know Act (EPCRA), Toxics Release Inventory (TRI) Program, U.S. Environmental Protection Agency, 40 CFR 372.65, July 1, 2008.

2 "2009 TLVs® and BEIs®, Threshold Limit Values and Biological Exposure Indices," American Conference of Governmental Industrial Hygienists (ACGIH), 2009.

20 List of Hazardous Substances and Reportable Quantities (RQ) , Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), U.S. Environmenta l Protection Agency, 40 CFR 302, Table 302.4, July 1, 2008.

4 "NIOSH Pocket Guide to Chemical Hazards," National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, No. 2005-149, September 2005.

6 "Environmental Hazardous Substance List," New Jersey Department of Environmental Protection, N.J.A.C. 7:1G-2, as printed in the Community Right to Know Survey Instruction Book, 2008.

Hazardous Substance List (Chapter 323) (PA-RTK)

Name acc. to inventory	CAS No	Classification
MANGANESE	7439-96-5	*, E

Legend

* Any compound of this substance is also an environmental hazard

E Environmental hazard

Hazardous Substance List (RI-RTK)

Not listed

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Not listed

Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

Not listed

VOC content

Regulated Volatile Organic Compounds (VOC-EPA)	0 %
Regulated Volatile Organic Compounds (VOC-Cal ARB)	0 %

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System.
American Coatings Association.

Category	Rating	Description
Chronic	/	none
Health	1	irritation or minor reversible injury possible
Flammability	0	material that will not burn under typical fire conditions
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	-

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	0	material that will not burn under typical fire conditions
Health	1	material that, under emergency conditions, can cause significant irritation
Instability	0	material that is normally stable, even under fire conditions
Special hazard	-	-

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance by the supplier.

SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2023-02-27

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
Cal ARB	California Air Resources Board
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DEP CODE	Department of Environmental Protection Code
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EPA	Environmental Protection Agency. An agency of the federal government of the United States charged with protecting human health and the environment
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HHS	Higher hazard substance
IARC	International Agency for Research on Cancer
IARC Monographs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
IMDG	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LHS	Lower hazard substance
LOEC	Lowest Observed Effect Concentration
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NOEC	No Observed Effect Concentration
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic

Abbr.	Descriptions of used abbreviations
PEL	Permissible exposure limit
ppm	Parts per million
STEL	Short-term exposure limit
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT).
International Maritime Dangerous Goods Code (IMDG).
Dangerous Goods Regulations (DGR) for the air transport (IATA).

Responsible for the safety data sheet

Chemical Regulatory Compliance Company
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USA

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Website: www.crc-us.com

Disclaimer

This information is based upon the present state of our knowledge.
This SDS has been compiled and is solely intended for this product.