

Safety Data Sheet

Manganese Sulfate, Monohydrate, ACS

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Manganese Sulfate, Monohydrate, ACS

Synonyms/Generic Names: None

Product Number: 3360

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information Call: 920-623-2140 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Target organ effect

Target Organs: Lungs, Nerves

Signal Words: Warning

Pictograms:



GHS Classification:

Acute aquatic toxicity	Category 2
Specific target organ toxicity – repeated exposure	Category 2

GHS Label Elements, including precautionary statements:

Hazard Statements:

H373	May cause damage to organs through prolonged or repeated exposure.
H401	Toxic to aquatic life.

Precautionary Statements:

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P308+P311	IF exposed and concerned: Call a POISON CENTER/doctor/physician.

Potential Health Effects

Eyes	May cause eye irritation.
Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Ingestion	May be harmful if swallowed.

NFPA Ratings

Health	1
Flammability	0
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	1
Fire	0
Reactivity	0
Personal	E

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Manganese Sulfate Monohydrate	98-102	10034-96-5	232-089-9	MnSO ₄ ·H ₂ O	169.03 g/mol

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes and seek medical attention if necessary.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if necessary.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention if necessary.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention if necessary.

5. FIREFIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
Special protective equipment and precautions for firefighters	Wear self contained breathing apparatus for firefighting if necessary.
Specific hazards arising from the chemical	Emits toxic fumes (sulfur oxides, manganese oxides) under fire conditions. (See also Stability and Reactivity section)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Prevent spillage from entering drains. Discharge into the environment must be avoided. Any release to the environment may be subject to a federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Pick up and arrange disposal without creating dust. Sweep up and place in suitable, closed containers for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use.

Conditions for safe storage, including any incompatibilities

Store in cool, dry, well ventilated area in tightly-closed, plainly-labeled containers. Protect against light. Store in corrosion-proof area. Hygroscopic, keep in a dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Controls:

Component	Exposure Limits	Basis	Entity
Manganese, fume, as Mn	5 mg/m ³	CEIL	OSHA
	0.2 mg/m ³	TLV	ACGIH
	1 mg/m ³	REL	NIOSH
	3 mg/m ³	STEL	NIOSH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

Personal Protection

Eyes	Safety glasses with side shields.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Light pink powder.
Odor	Not Available
Odor threshold	Not Available
pH	3.0-3.5 at 50 g/l at 20°C (68°F)
Melting point/freezing point	Not Available
Initial boiling point and boiling range	Not Available
Flash point	Not Available
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive

Vapor pressure	Not Available
Vapor density	Not Available
Relative density	Not Available
Solubility (ies)	Soluble
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Acids, moisture, strong oxidizers
Incompatible Materials	Not Available
Hazardous Decomposition Products	Sulfur oxides, Manganese oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	Not Available
Eyes	Not Available
Respiratory	Not Available
Ingestion	Not Available

Carcinogenicity

IARC	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Eyes	May cause eye irritation.
Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Ingestion	May be harmful if swallowed.

Chronic Toxicity	Carcinogenicity - mouse - Oral Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Endocrine: Thyroid tumors.
Teratogenicity	Not Available
Mutagenicity	-Genotoxicity in vitro - Hamster – ovary: Cytogenetic analysis -Genotoxicity in vitro - Hamster – ovary: Sister chromatid exchange -Genotoxicity in vivo - mouse – Oral: Micronucleus test -Genotoxicity in vivo - mouse – Oral: Cytogenetic analysis -Genotoxicity in vivo - mouse – Oral: sperm
Embryotoxicity	Reproductive toxicity – mouse – male – Oral Paternal: Spermatogenesis (including genetic material, sperm morphology, motility, and count)
Specific Target Organ Toxicity	May cause damage to organs through prolonged or repeated exposure.
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	Not Available
Aquatic Invertebrate	Not Available
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container or residue.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	Not Dangerous Goods
TDG	Not Dangerous Goods
IMDG	Not Dangerous Goods
Marine Pollutant	No
IATA/ICAO	Not Dangerous Goods

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Manganese Sulfate Monohydrate
SARA 312	Manganese Sulfate Monohydrate
SARA 313	Not Listed
WHMIS Canada	Class D-2B: Material causing other toxic effects (TOXIC).

16. OTHER INFORMATION

Revision	Date
Revision 1	07-29-2011
Revision 2	10/28/2013

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