

# ***Chem-Impex International Inc.***

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## **S A F E T Y   D A T A   S H E E T**

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### **SECTION 1.   CHEMICAL IDENTIFICATION**

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|                                 |                                                         |
|---------------------------------|---------------------------------------------------------|
| CATALOG #:                      | 35676                                                   |
| NAME:                           | Manganese(II) carbonate                                 |
| 24 HOUR EMERGENCY<br>TELEPHONE: | (800) 535-5053(USA)<br><br>352-323-3500 (INTERNATIONAL) |
| TO REQUEST AN MSDS:             | (800) 869-9290                                          |
| CUSTOMER<br>SERVICE:            | (630) 766-2112                                          |

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### **SECTION 2.   HAZARDS IDENTIFICATION**

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#### **CLASSIFICATION OF THE SUBSTANCE OR MIXTURE**

**GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)**  
SHORT-TERM (ACUTE) AQUATIC HAZARD (CATEGORY 2), H401

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE  
SECTION 16.

#### **GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS**

PICTOGRAM                    -  
SIGNAL WORD                -

**HAZARD STATEMENT(S)**

H401 TOXIC TO AQUATIC LIFE.

**PRECAUTIONARY STATEMENT(S)**

P273 AVOID RELEASE TO THE ENVIRONMENT.

P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.

**HAZARDS NOT  
OTHERWISE  
CLASSIFIED  
(HNOC) OR NOT  
COVERED BY GHS** NONE

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

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MF: MnCO<sub>3</sub>

MW: 114.95

CAS-NO. 598-62-9

PURITY: ≥ 44% (Mn content)

**HAZARDOUS COMPONENTS**

| COMPONENT                      | CLASSIFICATION                 | CONCENTRATION |
|--------------------------------|--------------------------------|---------------|
| <b>MANGANESE(II) CARBONATE</b> |                                |               |
|                                | ACUTE AQUATIC HAZARD;<br>H401, | <= 100 %      |

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

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**SECTION 4. FIRST-AID MEASURES**

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**DESCRIPTION OF FIRST AID MEASURES**

**IF INHALED** AFTER INHALATION: FRESH AIR.

**IN CASE OF SKIN CONTACT** IN CASE OF SKIN CONTACT: TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/ SHOWER.

**IN CASE OF EYE CONTACT** AFTER EYE CONTACT: RINSE OUT WITH PLENTY OF WATER. REMOVE CONTACT LENSES.

**IF SWALLOWED** AFTER SWALLOWING: MAKE VICTIM DRINK WATER

(TWO GLASSES AT MOST). CONSULT DOCTOR IF FEELING UNWELL.

**MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED**

THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE SECTION 2.2) AND/OR IN SECTION 11.

**INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED**

NO DATA AVAILABLE

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**SECTION 5. FIRE AND EXPLOSION DATA**

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**EXTINGUISHING MEDIA**

**SUITABLE EXTINGUISHING MEDIA**

SUITABLE EXTINGUISHING MEDIA  
USE EXTINGUISHING MEASURES THAT ARE APPROPRIATE TO LOCAL CIRCUMSTANCES AND THE SURROUNDING ENVIRONMENT.

UNSUITABLE EXTINGUISHING MEDIA  
FOR THIS SUBSTANCE/MIXTURE NO LIMITATIONS OF EXTINGUISHING AGENTS ARE GIVEN.

**SPECIFIC HAZARDS DURING FIRE FIGHTING**

NOT COMBUSTIBLE.  
AMBIENT FIRE MAY LIBERATE HAZARDOUS VAPOURS.

**HAZARDOUS COMBUSTION PRODUCTS**

CARBON OXIDES  
MANGANESE/MANGANESE OXIDES

**ADVICE FOR FIREFIGHTERS**

IN THE EVENT OF FIRE, WEAR SELF-CONTAINED BREATHING APPARATUS.

**FURTHER INFORMATION**

PREVENT FIRE EXTINGUISHING WATER FROM CONTAMINATING SURFACE WATER OR THE GROUND WATER SYSTEM.

**SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS**

IN THE EVENT OF FIRE, WEAR SELF-CONTAINED BREATHING APPARATUS.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

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**PERSONAL**

ADVICE FOR NON-EMERGENCY PERSONNEL:

**PRECAUTIONS,  
PROTECTIVE  
EQUIPMENT AND  
EMERGENCY  
PROCEDURES**

AVOID INHALATION OF DUSTS.  
AVOID SUBSTANCE CONTACT.  
ENSURE ADEQUATE VENTILATION.  
EVACUATE THE DANGER AREA, OBSERVE EMERGENCY  
PROCEDURES, CONSULT AN EXPERT.  
ADVICE FOR EMERGENCY RESPONDERS:  
FOR PERSONAL PROTECTION SEE SECTION 8.

**ENVIRONMENTAL  
PRECAUTIONS**

DO NOT LET PRODUCT ENTER DRAINS.

**METHODS AND  
MATERIALS FOR  
CONTAINMENT AND  
CLEANING UP**

COVER DRAINS. COLLECT, BIND, AND PUMP OFF SPILLS.  
OBSERVE POSSIBLE MATERIAL RESTRICTIONS (SEE  
SECTIONS 7 AND 10). TAKE UP DRY. DISPOSE OF  
PROPERLY. CLEAN UP AFFECTED AREA. AVOID  
GENERATION OF DUSTS.

**REFERENCE TO OTHER  
SECTIONS**

FOR DISPOSAL SEE SECTION 13.

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## **SECTION 7. HANDLING AND STORAGE**

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**PRECAUTIONS FOR  
SAFE HANDLING**

FOR PRECAUTIONS SEE SECTION 2.2.

**CONDITIONS FOR SAFE  
STORAGE, INCLUDING  
ANY  
INCOMPATIBILITIES**

TIGHTLY CLOSED. DRY.  
STORE AT RT

HYGROSCOPIC!

**SPECIFIC END USE(S)**

APART FROM THE USES MENTIONED IN SECTION 1.2 NO  
OTHER SPECIFIC USES ARE STIPULATED.

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**CONTROL PARAMETERS**

**INGREDIENTS WITH WORKPLACE CONTROL PARAMETERS**

| <b>COMPONENTS</b>      | <b>CAS-NO.</b> | <b>VALUE TYPE<br/>(FORM OF<br/>EXPOSURE)</b> | <b>CONTROL<br/>PARAMETERS /<br/>PERMISSIBLE<br/>CONCENTRATION</b> | <b>BASIS</b> |
|------------------------|----------------|----------------------------------------------|-------------------------------------------------------------------|--------------|
| MANGANOUS<br>CARBONATE | 598-62-9       | C                                            | 5 MG/M3<br>(MANGANESE)                                            | OSHA Z-1     |
|                        |                | TWA<br>(INHALABLE<br>PARTICULATE<br>MATTER)  | 0.1 MG/M3<br>(MANGANESE)                                          | ACGIH        |

|  |  |                                              |                           |           |
|--|--|----------------------------------------------|---------------------------|-----------|
|  |  | TWA<br>(RESPIRABLE<br>PARTICULATE<br>MATTER) | 0.02 MG/M3<br>(MANGANESE) | ACGIH     |
|  |  | TWA                                          | 1 MG/M3<br>(MANGANESE)    | NIOSH REL |
|  |  | ST                                           | 3 MG/M3<br>(MANGANESE)    | NIOSH REL |

## EXPOSURE CONTROLS

### APPROPRIATE ENGINEERING CONTROLS

CHANGE CONTAMINATED CLOTHING. WASH HANDS  
AFTER WORKING WITH SUBSTANCE.

## PERSONAL PROTECTIVE EQUIPMENT

### EYE/FACE PROTECTION

USE EQUIPMENT FOR EYE PROTECTION TESTED AND  
APPROVED UNDER APPROPRIATE GOVERNMENT  
STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).

### SKIN PROTECTION

HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED  
PRIOR TO USE. USE PROPER GLOVE REMOVAL  
TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER  
SURFACE) TO AVOID SKIN CONTACT WITH THIS  
PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER  
USE IN ACCORDANCE WITH APPLICABLE LAWS AND  
GOOD LABORATORY PRACTICES. WASH AND DRY  
HANDS.

**BODY PROTECTION**

MATERIAL : NITRILE RUBBER  
BREAK THROUGH TIME : 480 MIN  
GLOVE THICKNESS : 0.11 MM  
PROTECTIVE INDEX : FULL CONTACT  
MANUFACTURER : DERMATRIL® (KCL 741, SIZE L)

MATERIAL : NITRILE RUBBER  
BREAK THROUGH TIME : 480 MIN  
GLOVE THICKNESS : 0.11 MM  
PROTECTIVE INDEX : SPLASH CONTACT  
MANUFACTURER : DERMATRIL® (KCL 741, SIZE L)

REMARKS : HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER USE IN ACCORDANCE WITH APPLICABLE LAWS AND GOOD LABORATORY PRACTICES. WASH AND DRY HANDS. IF USED IN SOLUTION, OR MIXED WITH OTHER SUBSTANCES, AND UNDER CONDITIONS WHICH DIFFER FROM EN 374, CONTACT THE SUPPLIER OF THE CE APPROVED GLOVES. THIS RECOMMENDATION IS ADVISORY ONLY AND MUST BE EVALUATED BY AN INDUSTRIAL HYGIENIST AND SAFETY OFFICER FAMILIAR WITH THE SPECIFIC SITUATION OF ANTICIPATED USE BY OUR CUSTOMERS. IT SHOULD NOT BE CONSTRUED AS OFFERING AN APPROVAL FOR ANY SPECIFIC USE SCENARIO.

**RESPIRATORY PROTECTION**

REQUIRED WHEN DUSTS ARE GENERATED. OUR RECOMMENDATIONS ON FILTERING RESPIRATORY PROTECTION ARE BASED ON THE FOLLOWING STANDARDS: DIN EN 143, DIN 14387 AND OTHER ACCOMPANYING STANDARDS RELATING TO THE USED RESPIRATORY PROTECTION SYSTEM.  
RECOMMENDED FILTER TYPE: FILTER TYPE P2  
THE ENTREPRENEUR HAS TO ENSURE THAT MAINTENANCE, CLEANING AND TESTING OF RESPIRATORY PROTECTIVE DEVICES ARE CARRIED OUT ACCORDING TO THE INSTRUCTIONS OF THE PRODUCER. THESE MEASURES HAVE TO BE PROPERLY DOCUMENTED.

**CONTROL OF ENVIRONMENTAL EXPOSURE**

DO NOT LET PRODUCT ENTER DRAINS.

**HYGIENE MEASURES**

IMMEDIATELY CHANGE CONTAMINATED CLOTHING. APPLY PREVENTIVE SKIN PROTECTION. WASH HANDS AND FACE AFTER WORKING WITH SUBSTANCE.

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**SECTION 9.      PHYSICAL AND CHEMICAL PROPERTIES**

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**INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

|                                                    |                                                   |
|----------------------------------------------------|---------------------------------------------------|
| APPEARANCE                                         | BROWN POWDER                                      |
| ODOUR                                              | NO DATA AVAILABLE                                 |
| ODOUR THRESHOLD                                    | NO DATA AVAILABLE                                 |
| PH                                                 | NO DATA AVAILABLE                                 |
| MELTING                                            | > 842 °F / > 450 °C                               |
| POINT/FREEZING POINT                               | DECOMPOSITION: YES                                |
|                                                    | METHOD: REGULATION (EC) NO. 440/2008, ANNEX, A.1  |
| INITIAL BOILING POINT<br>AND BOILING RANGE         | NO DATA AVAILABLE                                 |
| FLASH POINT                                        | NO DATA AVAILABLE                                 |
| EVAPORATION RATE                                   | NO DATA AVAILABLE                                 |
| FLAMMABILITY (SOLID,<br>GAS)                       | THE PRODUCT IS NOT FLAMMABLE.                     |
| UPPER/LOWER<br>FLAMMABILITY OR<br>EXPLOSIVE LIMITS | NO DATA AVAILABLE                                 |
| VAPOUR PRESSURE                                    | NO DATA AVAILABLE                                 |
| VAPOUR DENSITY                                     | NO DATA AVAILABLE                                 |
| RELATIVE DENSITY                                   | 3.27 (72 °F / 22 °C)                              |
|                                                    | METHOD: REGULATION (EC) NO. 440/2008, ANNEX, A.3  |
| DENSITY                                            | 3.12 G/CM3 (77 °F / 25 °C)                        |
|                                                    | METHOD: LIT.                                      |
| WATER SOLUBILITY                                   | 0.00363 G/L SLIGHTLY SOLUBLE (68 °F / 20 °C)      |
|                                                    | METHOD: REGULATION (EC) NO. 440/2008, ANNEX, A.6  |
|                                                    | GLP: YES                                          |
| PARTITION<br>COEFFICIENT: N-<br>OCTANOL/WATER      | NOT APPLICABLE FOR INORGANIC SUBSTANCES           |
| AUTO-IGNITION<br>TEMPERATURE                       | NO DATA AVAILABLE                                 |
| DECOMPOSITION<br>TEMPERATURE                       | NO DATA AVAILABLE                                 |
| VISCOSITY                                          | NO DATA AVAILABLE                                 |
| EXPLOSIVE<br>PROPERTIES                            | NO DATA AVAILABLE                                 |
| OXIDIZING PROPERTIES                               | METHOD: REGULATION (EC) NO. 440/2008, ANNEX, A.17 |
|                                                    | NONE                                              |
| <b>OTHER SAFETY<br/>INFORMATION</b>                | NO DATA AVAILABLE                                 |

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**SECTION 10.      STABILITY AND REACTIVITY**

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|                   |                   |
|-------------------|-------------------|
| <b>REACTIVITY</b> | NO DATA AVAILABLE |
|-------------------|-------------------|

|                                           |                                                                                        |
|-------------------------------------------|----------------------------------------------------------------------------------------|
| <b>CHEMICAL STABILITY</b>                 | THE PRODUCT IS CHEMICALLY STABLE UNDER STANDARD AMBIENT CONDITIONS (ROOM TEMPERATURE). |
| <b>POSSIBILITY OF HAZARDOUS REACTIONS</b> | NO DATA AVAILABLE                                                                      |
| <b>CONDITIONS TO AVOID</b>                | AVOID MOISTURE.                                                                        |
| <b>INCOMPATIBLE MATERIALS</b>             | STRONG OXIDIZING AGENTS<br>STRONG ACIDS                                                |
| <b>HAZARDOUS DECOMPOSITION PRODUCTS</b>   | IN THE EVENT OF FIRE: SEE SECTION 5                                                    |

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## SECTION 11. TOXICOLOGICAL INFORMATION

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### INFORMATION ON TOXICOLOGICAL EFFECTS

|                                          |                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ACUTE TOXICITY</b>                    | LD50 ORAL - RAT - FEMALE - > 2,000 MG/KG (OECD TEST GUIDELINE 420)<br><br>LC50 INHALATION - RAT - MALE AND FEMALE - 4 H - > 5.35 MG/L - DUST/MIST (OECD TEST GUIDELINE 403)<br>REMARKS: (IN ANALOGY TO SIMILAR PRODUCTS) THE VALUE IS GIVEN IN ANALOGY TO THE FOLLOWING SUBSTANCES: MANGANESE OXIDE<br><br>DERMAL: NO DATA AVAILABLE<br><br>NO DATA AVAILABLE |
| <b>SKIN CORROSION/IRRITATION</b>         | SKIN – RABBIT<br>RESULT: NO SKIN IRRITATION - 4 H (OECD TEST GUIDELINE 404)                                                                                                                                                                                                                                                                                   |
| <b>SERIOUS EYE DAMAGE/EYE IRRITATION</b> | EYES – RABBIT<br>RESULT: NO EYE IRRITATION - 72 H (OECD TEST GUIDELINE 405)                                                                                                                                                                                                                                                                                   |
| <b>RESPIRATORY OR SKIN SENSITISATION</b> | LOCAL LYMPH NODE ASSAY (LLNA) – MOUSE<br>RESULT: NEGATIVE (OECD TEST GUIDELINE 429)<br>REMARKS: (IN ANALOGY TO SIMILAR PRODUCTS) THE VALUE IS GIVEN IN ANALOGY TO THE FOLLOWING SUBSTANCES: MANGANESE OXIDE                                                                                                                                                   |

**GERM CELL  
MUTAGENICITY**

TEST TYPE: AMES TEST  
TEST SYSTEM: ESCHERICHIA COLI/SALMONELLA  
TYPHIMURIUM  
METABOLIC ACTIVATION: WITH AND WITHOUT  
METABOLIC ACTIVATION  
METHOD: OECD TEST GUIDELINE 471  
RESULT: NEGATIVE  
REMARKS: (IN ANALOGY TO SIMILAR PRODUCTS)  
THE VALUE IS GIVEN IN ANALOGY TO THE  
FOLLOWING SUBSTANCES: MANGANESE(II) CHLORIDE  
TEST  
TYPE: CHROMOSOME ABERRATION TEST IN VITRO  
TEST SYSTEM: HUMAN LYMPHOCYTES  
METABOLIC ACTIVATION: WITH AND WITHOUT  
METABOLIC ACTIVATION  
METHOD: OECD TEST GUIDELINE 473  
RESULT: NEGATIVE  
REMARKS: (IN ANALOGY TO SIMILAR PRODUCTS)  
THE VALUE IS GIVEN IN ANALOGY TO THE  
FOLLOWING SUBSTANCES: MANGANESE(II) CHLORIDE  
TEST  
TYPE: IN VITRO MAMMALIAN CELL GENE MUTATION  
TEST  
TEST SYSTEM: MOUSE LYMPHOMA CELLS  
METABOLIC ACTIVATION: WITH AND WITHOUT  
METABOLIC ACTIVATION  
METHOD: OECD TEST GUIDELINE 476  
RESULT: NEGATIVE  
REMARKS: (IN ANALOGY TO SIMILAR PRODUCTS)  
THE VALUE IS GIVEN IN ANALOGY TO THE  
FOLLOWING SUBSTANCES: MANGANESE(II) CHLORIDE

**CARCINOGENICITY**

IARC:

NO INGREDIENT OF THIS PRODUCT PRESENT AT  
LEVELS GREATER THAN OR EQUAL TO 0.1% IS  
IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED  
HUMAN CARCINOGEN BY IARC.

NTP:

NO INGREDIENT 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 COMPONENT OF THIS PRODUCT PRESENT AT  
LEVELS GREATER THAN OR EQUAL TO 0.1% IS ON  
OSHA'S LIST OF REGULATED CARCINOGENS.

**REPRODUCTIVE  
TOXICITY**

NO DATA AVAILABLE

**SPECIFIC TARGET  
ORGAN TOXICITY -  
SINGLE EXPOSURE**

NO DATA AVAILABLE

**SPECIFIC TARGET  
ORGAN TOXICITY -  
REPEATED EXPOSURE**

NO DATA AVAILABLE

**ASPIRATION HAZARD**

NO DATA AVAILABLE

**ADDITIONAL  
INFORMATION**

MEN EXPOSED TO MANGANESE DUSTS SHOWED A DECREASE IN FERTILITY. CHRONIC MANGANESE POISONING PRIMARILY INVOLVES THE CENTRAL NERVOUS SYSTEM. EARLY SYMPTOMS INCLUDE LANGUOR, SLEEPINESS AND WEAKNESS IN THE LEGS. A STOLID MASK-LIKE APPEARANCE OF THE FACE, EMOTIONAL DISTURBANCES SUCH AS UNCONTROLLABLE LAUGHTER AND A SPASTIC GAIT WITH TENDENCY TO FALL IN WALKING ARE FINDINGS IN MORE ADVANCED CASES. HIGH INCIDENCE OF PNEUMONIA HAS BEEN FOUND IN WORKERS EXPOSED TO THE DUST OR FUME OF SOME MANGANESE COMPOUNDS.

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

STOMACH - IRREGULARITIES - BASED ON HUMAN EVIDENCE

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**SECTION 12. ECOLOGICAL INFORMATION**

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**TOXICITY****TOXICITY TO FISH**

LC50 (ONCORHYNCHUS MYKISS (RAINBOW TROUT)):  
3.17 MG/L  
END POINT: MORTALITY  
EXPOSURE TIME: 96 H  
TEST TYPE: FLOW-THROUGH TEST  
ANALYTICAL MONITORING: YES  
REMARKS: (IN ANALOGY TO SIMILAR PRODUCTS)  
THE VALUE IS GIVEN IN ANALOGY TO THE  
FOLLOWING SUBSTANCES: MANGANESE SULFATE  
MONOHYDRATE

**TOXICITY TO DAPHNIA  
AND OTHER AQUATIC  
INVERTEBRATES**

EC50 (DAPHNIA MAGNA (WATER FLEA)): > 3.6 MG/L  
END POINT: IMMOBILIZATION  
EXPOSURE TIME: 48 H  
TEST TYPE: STATIC TEST  
ANALYTICAL MONITORING: YES  
METHOD: OECD TEST GUIDELINE 202  
GLP: YES

|                                                                                 |                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOXICITY TO<br>ALGAE/AQUATIC PLANTS                                             | ERC50 (PSEUDOKIRCHNERIELLA SUBCAPITATA<br>(GREEN ALGAE)): > 2.2 MG/L<br>EXPOSURE TIME: 72 H<br>TEST TYPE: STATIC TEST<br>ANALYTICAL MONITORING: YES<br>METHOD: OECD TEST GUIDELINE 201<br>GLP: YES                                                                                                                                       |
| TOXICITY TO FISH<br>(CHRONIC TOXICITY)                                          | NOEC (SALVELINUS FONTINALIS (BROOK TROUT)):<br>0.55 MG/L<br>EXPOSURE TIME: 65 D<br>TEST TYPE: FLOW-THROUGH TEST<br>ANALYTICAL MONITORING: YES<br>METHOD: OECD TEST GUIDELINE 210<br>REMARKS: (IN ANALOGY TO SIMILAR PRODUCTS)<br>THE VALUE IS GIVEN IN ANALOGY TO THE<br>FOLLOWING SUBSTANCES: MANGANESE SULFATE<br>MONOHYDRATE          |
| TOXICITY TO DAPHNIA<br>AND OTHER AQUATIC<br>INVERTEBRATES<br>(CHRONIC TOXICITY) | EC50 (CERIODAPHNIA DUBIA (WATER FLEA)): 4.1 MG/L<br>END POINT: IMMOBILIZATION<br>EXPOSURE TIME: 8 D<br>TEST TYPE: STATIC TEST<br>ANALYTICAL MONITORING: YES<br>METHOD: OECD TEST GUIDELINE 211<br>GLP: YES<br>REMARKS: (IN ANALOGY TO SIMILAR PRODUCTS) THE<br>VALUE IS GIVEN IN ANALOGY TO THE FOLLOWING<br>SUBSTANCES: MANGANESE OXIDE |
| TOXICITY TO<br>MICROORGANISMS                                                   | EC50 (ACTIVATED SLUDGE): > 1,000 MG/L<br>EXPOSURE TIME: 3 H<br>TEST TYPE: STATIC TEST<br>METHOD: OECD TEST GUIDELINE 209<br>GLP: YES<br>REMARKS: (IN ANALOGY TO SIMILAR PRODUCTS) THE<br>VALUE IS GIVEN IN ANALOGY TO THE FOLLOWING<br>SUBSTANCES: MANGANESE OXIDE                                                                       |
| <b>ECOTOXICOLOGY ASSESSMENT</b>                                                 |                                                                                                                                                                                                                                                                                                                                          |
| CHRONIC AQUATIC<br>TOXICITY                                                     | THIS PRODUCT HAS NO KNOWN ECOTOXICOLOGICAL<br>EFFECTS.                                                                                                                                                                                                                                                                                   |
| <b>PERSISTENCE AND DEGRADABILITY</b>                                            |                                                                                                                                                                                                                                                                                                                                          |
| BIODEGRADABILITY                                                                | REMARKS: THE METHODS FOR DETERMINING<br>BIODEGRADABILITY ARE NOT APPLICABLE TO<br>INORGANIC SUBSTANCES.                                                                                                                                                                                                                                  |
| <b>BIOACCUMULATIVE POTENTIAL</b>                                                |                                                                                                                                                                                                                                                                                                                                          |
| PARTITION COEFFICIENT:<br>N- OCTANOL/WATER                                      | REMARKS: NOT APPLICABLE FOR INORGANIC<br>SUBSTANCES                                                                                                                                                                                                                                                                                      |
| <b>MOBILITY IN SOIL</b>                                                         | NO DATA AVAILABLE                                                                                                                                                                                                                                                                                                                        |
| <b>OTHER ADVERSE<br/>EFFECTS</b>                                                | NO DATA AVAILABLE                                                                                                                                                                                                                                                                                                                        |

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## **SECTION 13.     DISPOSAL CONSIDERATIONS**

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### **WASTE TREATMENT METHODS**

**WASTE FROM RESIDUES**    WASTE MATERIAL MUST BE DISPOSED OF IN ACCORDANCE WITH THE NATIONAL AND LOCAL REGULATIONS. LEAVE CHEMICALS IN ORIGINAL CONTAINERS. NO MIXING WITH OTHER WASTE. HANDLE UNCLEARED CONTAINERS LIKE THE PRODUCT ITSELF.

**CONTAMINATED  
PACKAGING**                    DISPOSE OF AS UNUSED PRODUCT.

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## **SECTION 14.     TRANSPORT INFORMATION**

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**DOT (US)**  
NOT DANGEROUS GOODS

**IMDG**  
NOT DANGEROUS GOODS

**IATA**  
NOT DANGEROUS GOODS

**FURTHER INFORMATION**  
NOT CLASSIFIED AS DANGEROUS IN THE MEANING OF TRANSPORT REGULATIONS.

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## **SECTION 15.     REGULATORY INFORMATION**

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**CERCLA REPORTABLE QUANTITY**  
THIS MATERIAL DOES NOT CONTAIN ANY COMPONENTS WITH A CERCLA RQ.

**SARA 304 EXTREMELY HAZARDOUS SUBSTANCES REPORTABLE QUANTITY**  
THIS MATERIAL DOES NOT CONTAIN ANY COMPONENTS WITH A SECTION 304 EHS RQ.

**SARA 302 EXTREMELY HAZARDOUS SUBSTANCES THRESHOLD PLANNING QUANTITY**  
THIS MATERIAL DOES NOT CONTAIN ANY COMPONENTS WITH A SECTION 302 EHS TPQ.

**SARA 311/312 HAZARDS**    CHRONIC HEALTH HAZARD

**SARA 313**

THE FOLLOWING COMPONENTS ARE SUBJECT TO  
REPORTING LEVELS ESTABLISHED BY SARA TITLE III,  
SECTION 313:

MANGANOUS CARBONATE

598-62-9

>= 90 - <= 100 %

**US STATE REGULATIONS****MASSACHUSETTS RIGHT TO KNOW**

NO COMPONENTS ARE SUBJECT TO THE MASSACHUSETTS RIGHT TO KNOW ACT.

**PENNSYLVANIA RIGHT TO KNOW**

MANGANOUS CARBONATE

598-62-9

**MAINE CHEMICALS OF HIGH CONCERN**

PRODUCT DOES NOT CONTAIN ANY LISTED CHEMICALS

**VERMONT CHEMICALS OF HIGH CONCERN**

PRODUCT DOES NOT CONTAIN ANY LISTED CHEMICALS

**WASHINGTON CHEMICALS OF HIGH CONCERN**

PRODUCT DOES NOT CONTAIN ANY LISTED CHEMICALS

**THE COMPONENTS OF THIS PRODUCT ARE REPORTED IN THE FOLLOWING  
INVENTORIES:****TSCA**

ALL SUBSTANCES LISTED AS ACTIVE ON THE TSCA  
INVENTORY

**TSCA LIST**

NO SUBSTANCES ARE SUBJECT TO A SIGNIFICANT NEW USE RULE.

NO SUBSTANCES ARE SUBJECT TO TSCA 12(B) EXPORT NOTIFICATION  
REQUIREMENTS.

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**SECTION 16. OTHER INFORMATION**

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**FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.**

H401

TOXIC TO AQUATIC LIFE.

**MSDS LEGEND**

MW:

MOLECULAR WEIGHT

MF:

MOLECULAR FORMULA

VOC:

VOLATILE ORGANIC COMPOUNDS

ACGIH:

AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL  
HYGINISTS

CAS:

CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER

OSHA:

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

PEL:

PERMISSIBLE EXPOSURE LIMIT (OSHA)

TLV: THRESHOLD LIMIT VALUE (ACGIH)

IMPORTANT:

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