



when using this product. Use only outdoors or in a well-ventilated area. Wear eye/face protection. Do not breathe dust/fume/gas/mist/vapors/spray.

**Precautionary Statements - Response**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

**Precautionary Statements - Storage**

Store locked up.

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant.

**Other Hazards**

Very toxic to aquatic life with long lasting effects

**Unknown Acute Toxicity**

34.69% of the mixture consists of ingredient(s) of unknown toxicity.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS\*

Chemical name	CAS No	Weight-%
N-(1-Naphthyl)ethylenediamine dihydrochloride	1465-25-4	<1
Cadmium	7440-43-9	3
Manganese sulfate monohydrate	10034-96-5	10
Ammonium chloride	12125-02-9	45-55

### 4. FIRST AID MEASURES

**First Aid Measures**

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Do not get in eyes, on skin, or on clothing.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. If symptoms persist, call a physician.
<b>Inhalation</b>	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.
<b>Ingestion</b>	Do not induce vomiting without medical advice. Rinse mouth. Drink plenty of water. Never give anything by mouth to an unconscious person. Immediate medical attention is required.
<b>Self-protection of the first aider</b>	Use personal protection recommended in Section 8. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

### 5. FIREFIGHTING MEASURES

**Suitable extinguishing media**

Dry chemical or CO<sub>2</sub>.

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of toxic and corrosive gases/vapors.

#### **Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## **6. ACCIDENTAL RELEASE MEASURES**

### **Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Use personal protection recommended in Section 8. Wear respiratory protection. If you have not donned special protective clothing approved for this material, do not expose yourself to any risk of this material touching you. Evacuate personnel to safe areas.

**Other Information** Ventilate the area.

**Environmental precautions** See Section 12 for additional Ecological Information.

### **Methods and material for containment and cleaning up**

**Methods for containment** Do not flush to sewer. Prevent dust cloud. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

**Methods for cleaning up** Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not taste or swallow. Do not breathe vapors/dust.

### **Conditions for safe storage, including any incompatibilities**

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Do not allow contact with air. Store away from incompatible materials. Keep out of the reach of children.

**Incompatible Products** Strong acids. Strong oxidizing agents. Strong bases. Finely powdered metals.

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

### **Control parameters**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4	-	-	Not Established
Cadmium 7440-43-9	TWA: 0.01 mg/m <sup>3</sup> TWA: 0.002 mg/m <sup>3</sup> respirable fraction TWA: 0.01 mg/m <sup>3</sup> Cd TWA: 0.002 mg/m <sup>3</sup> Cd respirable fraction	TWA: 0.1 mg/m <sup>3</sup> fume applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect TWA: 0.2 mg/m <sup>3</sup> dust applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect TWA: 5 µg/m <sup>3</sup> (vacated) STEL: 0.3 ppm fume Ceiling: 0.3 mg/m <sup>3</sup> fume applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect	IDLH: 9 mg/m <sup>3</sup> dust IDLH: 9 mg/m <sup>3</sup> Cd dust and fume

		Ceiling: 0.6 mg/m <sup>3</sup> dust applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect	
Manganese sulfate monohydrate 10034-96-5	TWA: 0.02 mg/m <sup>3</sup> Mn TWA: 0.1 mg/m <sup>3</sup> Mn	(vacated) Ceiling: 5 mg/m <sup>3</sup> Ceiling: 5 mg/m <sup>3</sup> Mn	IDLH: 500 mg/m <sup>3</sup> Mn TWA: 1 mg/m <sup>3</sup> Mn STEL: 3 mg/m <sup>3</sup> Mn
Ammonium chloride 12125-02-9	STEL: 20 mg/m <sup>3</sup> fume TWA: 10 mg/m <sup>3</sup> fume	(vacated) TWA: 10 mg/m <sup>3</sup> fume (vacated) STEL: 20 mg/m <sup>3</sup> fume	TWA: 10 mg/m <sup>3</sup> fume STEL: 20 mg/m <sup>3</sup> fume

NIOSH IDLH: Immediately Dangerous to Life or Health

### Appropriate engineering controls

**Engineering Measures**                      Showers  
    Eyewash stations  
    Ventilation systems.

### Individual protection measures, such as personal protective equipment

**Eye/Face Protection**                      Wear safety glasses with side shields (or goggles). If splashes are likely to occur: Face protection shield.

**Skin and body protection**                      Gloves & Lab Coat. Wear protective gloves/clothing. Protective gloves. Nitrile rubber.

**Respiratory protection**                      Handle in an enclosing hood with exhaust ventilation. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Hygiene Measures**                              Use only with adequate ventilation. Wear suitable gloves and eye/face protection. Avoid contact with eyes, skin and clothing. Wash hands and face before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

**Physical state**                                      powder  
**Appearance**                                      Gray    **Odor**    Slight

Property	Values	Remarks • Method
pH	7	(0.1g/10mL water)
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	Not Applicable	
Evaporation rate		
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	No information available	
Water solubility	Partly soluble	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

**Other Information**

<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC Content (%)</b>	No information available
<b>Density</b>	No information available
<b>Bulk density</b>	No information available

**10. STABILITY AND REACTIVITY**

<b>Stability</b>	Stable under recommended storage conditions.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Exposure to air or moisture over prolonged periods. Excessive heat. Incompatible Products.
<b>Incompatible materials</b>	Strong acids. Strong oxidizing agents. Strong bases. Finely powdered metals.
<b>Hazardous decomposition products</b>	May emit toxic fumes under fire conditions. Cadmium oxides. Ammonia. Carbon oxides (COx). Nitrogen oxides (NOx). Sodium oxides. Hydrogen chloride gas.

**11. TOXICOLOGICAL INFORMATION**

**Product Information** Harmful if swallowed, inhaled, or absorbed through skin

**Information on likely routes of exposure****Component identification**

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4	Not Established	Not Established	Not Established
Cadmium 7440-43-9	= 1140 mg/kg ( Rat )	Not Established	= 25 mg/m <sup>3</sup> ( Rat ) 30 min
Manganese sulfate monohydrate 10034-96-5	= 782 mg/kg ( Rat )	Not Established	Not Established
Ammonium chloride 12125-02-9	= 1650 mg/kg ( Rat )	Not Established	Not Established

**Information on toxicological effects**

Chemical name	ACGIH	IARC	NTP	OSHA
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4	Not Established	Not Established	Not Established	Not Established
Cadmium 7440-43-9	A2	Group 1	Known	X
Manganese sulfate monohydrate 10034-96-5	Not Established	Not Established	Not Established	Not Established
Ammonium chloride 12125-02-9	Not Established	Not Established	Not Established	Not Established

ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

<b>ATEmix (oral)</b>	1,403.00 mg/kg
<b>ATEmix (dermal)</b>	26,806.00 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	1.22 mg/l

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity****Unknown Aquatic Toxicity** 2.54 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4	Not Established	Not Established	Not Established
Cadmium 7440-43-9	Not Established	0.0004 - 0.003: 96 h Pimephales promelas mg/L LC50 0.002: 96 h Cyprinus carpio mg/L LC50 0.003: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.006: 96 h Oncorhynchus mykiss mg/L LC50 static 0.016: 96 h Oryzias latipes mg/L LC50 0.24: 96 h Cyprinus carpio mg/L LC50 static 21.1: 96 h Lepomis macrochirus mg/L LC50 4.26: 96 h Cyprinus carpio mg/L LC50 semi-static	0.0244: 48 h Daphnia magna mg/L EC50 Static
Manganese sulfate monohydrate 10034-96-5	Not Established	Not Established	Not Established
Ammonium chloride 12125-02-9	Not Established	209: 96 h Cyprinus carpio mg/L LC50 static 725: 24 h Lepomis macrochirus mg/L LC50	202: 24 h Daphnia magna mg/L LC50

**Persistence and degradability**

No information available.

**Bioaccumulation/Accumulation**

No information available.

Chemical name	Log Pow
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4	Not Established
Cadmium 7440-43-9	Not Established
Manganese sulfate monohydrate 10034-96-5	Not Established
Ammonium chloride 12125-02-9	Not Established

**13. DISPOSAL CONSIDERATIONS****Disposal Methods**

Dispose of waste product or used containers according to local regulations. Should not be released into the environment.

**Contaminated packaging**

Dispose of waste product or used containers according to local regulations.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4	Not Established	-	Not Established	Not Established
Cadmium 7440-43-9	Not Established	Included in waste streams: F006, F039, K061, K069, K100	1.0 mg/L regulatory level	Not Established
Manganese sulfate monohydrate 10034-96-5	Not Established	-	Not Established	Not Established
Ammonium chloride 12125-02-9	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
N-(1-Naphthyl)ethylenediamine dihydrochloride	Not Established	Not Established	Not Established	Not Established

ne dihydrochloride 1465-25-4				
Cadmium 7440-43-9	Not Established	Not Established	Not Established	Not Established
Manganese sulfate monohydrate 10034-96-5	Not Established	Not Established	Not Established	Not Established
Ammonium chloride 12125-02-9	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4	-
Cadmium 7440-43-9	-
Manganese sulfate monohydrate 10034-96-5	-
Ammonium chloride 12125-02-9	-

#### 14. TRANSPORT INFORMATION

**DOT**

**Proper shipping name** CADMIUM COMPOUNDS  
**UN-No** 2570  
**Hazard Class** 6.1  
**Packing group** III

**IATA**

**Proper shipping name** CADMIUM COMPOUNDS  
**UN-No** 2570  
**Hazard Class** 6.1  
**Packing group** III

**IMDG/IMO**

**Proper shipping name** CADMIUM COMPOUNDS  
**UN-No** 2570  
**Hazard Class** 6.1  
**Packing group** III

#### 15. REGULATORY INFORMATION

**International Inventories**

**TSCA** Complies  
**DSL/NDSL** Does not comply  
**EINECS/ELINCS** Does not comply  
**ENCS** Does not comply  
**IECSC** Complies  
**KECL** Does not comply  
**PICCS** Complies  
**AICS** Complies

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances  
 PICCS - Philippines Inventory of Chemicals and Chemical Substances  
 AICS - Australian Inventory of Chemical Substances

### US Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4	Not Established
Cadmium 7440-43-9	0.1
Manganese sulfate monohydrate 10034-96-5	1.0
Ammonium chloride 12125-02-9	1.0

#### **SARA 311/312 Hazard Categories**

<b>Acute health hazard</b>	Yes
<b>Chronic Health Hazard</b>	Yes
<b>Fire hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	No

#### **CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4	Not Established	Not Established	Not Established	Not Established
Cadmium 7440-43-9	Not Established	X	X	Not Established
Manganese sulfate monohydrate 10034-96-5	Not Established	Not Established	Not Established	Not Established
Ammonium chloride 12125-02-9	5000 lb	Not Established	Not Established	X

#### **CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	RQ
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4	-	Not Established	-
Cadmium 7440-43-9	10 lb	Not Established	RQ 10 lb final RQ RQ 4.54 kg final RQ
Manganese sulfate monohydrate 10034-96-5	-	Not Established	-
Ammonium chloride 12125-02-9	5000 lb	Not Established	RQ 5000 lb final RQ RQ 2270 kg final RQ

### US State Regulations

#### **California Proposition 65**

WARNING! This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm

Chemical name	California Proposition 65
N-(1-Naphthyl)ethylenediamine dihydrochloride	Not Established



1465-25-4 Cadmium 7440-43-9	Carcinogen Developmental Male Reproductive
Manganese sulfate monohydrate 10034-96-5	Not Established
Ammonium chloride 12125-02-9	Not Established

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4	Not Established	Not Established	Not Established
Cadmium 7440-43-9	X	X	X
Manganese sulfate monohydrate 10034-96-5	X	Not Established	X
Ammonium chloride 12125-02-9	X	X	X

**CPSC (Consumer Product Safety Commission) - Specially Regulated Substances**

Chemical name	CPSC (Consumer Product Safety Commission) - Specially Regulated Substances
Cadmium 7440-43-9	Regulated, CPSIA Section 106

**16. OTHER INFORMATION****NFPA**

Health hazard 3

Flammability 0

Instability 0

Physical and Chemical  
Hazards N/A

Health hazard 3



Health Hazard	3
Fire Hazard	0
Reactivity	0

Prepared by  
Issuing Date  
Disclaimer

Regulatory Affairs Department  
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The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of Safety Data Sheet**