



Steel Mill Scale

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 04/13/2018

Revision date: 04/13/2018

Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Steel Mill Scale

1.2. Recommended use and restrictions on use

Recommended use : Industrial use
Restrictions on use : None known

1.3. Supplier

Optimus Steel, LLC
P.O. Box 3869
Beaumont, TX 77704

1.4. Emergency telephone number

Emergency number : 800-424-9300 CHEMTREC

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Corr. 1A H314 Causes severe skin burns and eye damage
Eye Dam. 1 H318 Causes serious eye damage

Full text of hazard classes and H-statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
Precautionary statements (GHS-US) : P260 - Do not breathe dust, fume, vapors.
P264 - Wash hands thoroughly after handling.
P280 - Wear eye protection, face protection, protective clothing, protective gloves.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a poison center or doctor
P321 - Specific treatment (see supplemental first aid instruction on this label)
P363 - Wash contaminated clothing before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : Inhalation of fumes may cause metal fume fever. None.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Iron oxide (Fe ₂ O ₃)	(CAS-No.) 1309-37-1	85 - 92	Not classified
Calcium oxide	(CAS-No.) 1305-78-8	0 - 5	Skin Corr. 1A, H314
Aluminum oxide (Al ₂ O ₃)	(CAS-No.) 1344-28-1	0 - 2	Not classified

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Immediately remove contaminated clothing or footwear. Wash skin with plenty of water. Call a physician immediately. Seek medical attention if burns develop.
- First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. Call a physician immediately. Consult an ophthalmologist if irritation persists.
- First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after skin contact : Burns.
- Symptoms/effects after eye contact : Serious damage to eyes.
- Symptoms/effects after ingestion : Burns.

4.3. Immediate medical attention and special treatment, if necessary

Not applicable.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam.
- Unsuitable extinguishing media : Not determined.

5.2. Specific hazards arising from the chemical

- Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Evacuate area. Exercise caution when fighting any chemical fire.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Shovel or sweep up and put in a closed container for disposal. Notify authorities if product enters sewers or public waters.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.
- Hygiene measures : Separate work clothes from street clothes. Wash contaminated clothing before reuse. Launder separately. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Provide local exhaust or general room ventilation.
- Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Iron oxide (Fe ₂ O ₃) (1309-37-1)		
ACGIH	Local name	Iron oxide (Fe O)
ACGIH	ACGIH TWA (mg/m ³)	5 mg/m ³ (respirable particulate matter)
ACGIH	Remark (ACGIH)	Pneumoconiosis
OSHA	OSHA PEL (TWA) (mg/m ³)	10 mg/m ³ (fume) 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Calcium oxide (1305-78-8)		
ACGIH	Local name	Calcium oxide
ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³
ACGIH	Remark (ACGIH)	URT irr
OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
Aluminum oxide (Al ₂ O ₃) (1344-28-1)		
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Materials for protective clothing:

Wear long sleeves

Hand protection:

Chemically resistant protective gloves

Eye protection:

Chemical goggles or safety glasses. Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of inadequate ventilation wear respiratory protection.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Color	: Black
Odor	: odorless
Odor threshold	: No data available
pH	: No data available
Melting point	: 2800 °F
Freezing point	: Not applicable
Boiling point	: >= 5000 °F
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 7.85
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Metal oxides. On combustion, forms: carbon oxides (CO and CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Iron oxide (Fe₂O₃) (1309-37-1)

LD50 oral rat	> 10000 mg/kg
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Calcium oxide (1305-78-8)

LD50 oral rat	> 2000 mg/kg
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Aluminum oxide (Al₂O₃) (1344-28-1)

LD50 oral rat	> 5000 mg/kg
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Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Iron oxide (Fe2O3) (1309-37-1)	
IARC group	3 - Not classifiable

Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified

Specific target organ toxicity – repeated exposure	: Not classified
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Aspiration hazard	: Not classified
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Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

Other information	: Exposure to dust or fumes from some metal including iron, zinc, manganese, chromium, cobalt, and copper can produce a condition known as metal fume fever.
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Before neutralisation, the product may represent a danger to aquatic organisms.
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Calcium oxide (1305-78-8)	
LC50 fish 1	1070 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static])

12.2. Persistence and degradability

Steel Mill Scale	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Steel Mill Scale	
Bioaccumulative potential	Not established.

Calcium oxide (1305-78-8)	
BCF fish 1	(no bioaccumulation)

12.4. Mobility in soil

Steel Mill Scale	
Ecology - soil	Not established.

12.5. Other adverse effects

Effect on global warming	Not established
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SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.

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SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

Steel Mill Scale

SARA Section 311/312 Hazard Classes	Health hazard - Skin corrosion or Irritation Health hazard - Serious eye damage or eye irritation
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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Aluminum oxide (Al ₂ O ₃)	CAS-No. 1344-28-1	0 - 2%
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15.2. International regulations

CANADA

Iron oxide (Fe₂O₃) (1309-37-1)

Listed on the Canadian DSL (Domestic Substances List)

Calcium oxide (1305-78-8)

Listed on the Canadian DSL (Domestic Substances List)

Aluminum oxide (Al₂O₃) (1344-28-1)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Iron oxide (Fe₂O₃) (1309-37-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Calcium oxide (1305-78-8)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Aluminum oxide (Al₂O₃) (1344-28-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Iron oxide (Fe₂O₃) (1309-37-1)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

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Listed on CICR (Turkish Inventory and Control of Chemicals)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

Aluminum oxide (Al2O3) (1344-28-1)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
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Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

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U.S. - California - Proposition 65 - Other information

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Iron oxide (Fe2O3) (1309-37-1)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Calcium oxide (1305-78-8)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Aluminum oxide (Al2O3) (1344-28-1)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Revision date : 04/13/2018

Other information : **DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Full text of H-phrases:

Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Corr. 1A	Skin corrosion/irritation Category 1A
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

SDS US (GHS HazCom 2012)

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product