1. Identification

1.1. Product identifier
Product Identity: Carbon Steel Grit
Alternate Names: Carbon Steel Grit

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use: Abrasive Blasting Applications.
Application Method: Abrasive Blasting Applications.
Uses advised against: None known

1.3. Details of the supplier of the safety data sheet
Company Name: Marco Group International
3425 East Locust Street
Davenport, IA 52803

Emergency
24 hour Emergency Telephone No.: 800 BLAST IT (800-252-7848)
Customer Service: Marco Group International
PH: 800-252-7848
FX: 800-735-6849
Email: sales@marco.us
Reach Marco after hours: 877-782-3247

2. Hazard identification

2.1. Classification of the substance or mixture
Skin Sens. 1; H317: May cause an allergic skin reaction.
Resp. Sens. 1; H334: May cause allergy or asthma symptoms of breathing difficulties if inhaled.

2.2. Label elements
Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

Danger

H317: May cause an allergic skin reaction.
H334: May cause allergy or asthma symptoms of breathing difficulties if inhaled.
3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

<table>
<thead>
<tr>
<th>Ingredient/Chemical Designations</th>
<th>Weight %</th>
<th>GHS Classification*</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium compounds (as Cr (III))</td>
<td>1 - 5</td>
<td>Skin Sens. 1; H317</td>
<td>[1][2]</td>
</tr>
<tr>
<td>CAS Number: 0007440-47-3</td>
<td></td>
<td>Resp. Sens. 1; H334</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eye Irrit. 2; H319</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Resp. Irrit 3; H335</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin Irrit 2; H315</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aquatic Chronic 4; H413</td>
<td></td>
</tr>
</tbody>
</table>

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

*The full texts of the phrases are shown in Section 16.

4. First-aid measures

4.1. Description of first aid measures

General
In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation
Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, roll the person onto his or
her side (the recovery position) if there are no obvious signs of injury and obtain immediate medical attention. Give nothing by mouth.

Eyes
Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart, and seek medical attention.

Skin
Brush off excess dust, wash area with soap and water.

Ingestion
Seek medical help if large quantities have been ingested.

4.2. Most important symptoms and effects, both acute and delayed

Overview:
Inhalation: Inhalation of dust may cause respiratory irritation. Chromium and certain compounds of chromium have been reported to cause lung damage and breathing difficulties.
Ingestion: May cause gastric disturbances.
Skin: May cause sensitization on repeated contact. Dermatitis has been reported after contact with chromium compounds.
Eyes: Contact may cause irritation. See section 2 for further details.

Inhalation
May cause allergy or asthma symptoms of breathing difficulties if inhaled.

Skin
May cause an allergic skin reaction.

5. Fire-fighting measures

5.1. Extinguishing media
As appropriate for surrounding fire

5.2. Special hazards arising from the substance or mixture
Hazardous decomposition: No hazardous decomposition data available.
Do not breathe dust / fume.

5.3. Advice for fire-fighters
These products are non-flammable and do not react to the use of water or other materials used for extinguishing fire. Fine metal dust that is created as a waste stream and/or contaminants that are removed during use may pose a risk of fire or explosion.

ERG Guide No. ---- Not applicable

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions
Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

### 6.3. Methods and material for containment and cleaning up

Cast Steel Grit spilled or leaked onto floors can cause hazardous walking conditions. Spills or leaks should be vacuumed or swept from working areas. When cleaning up large quantities of dust, a NIOSH approved respirator should be worn. Spilled Cast Steel Grit can be reused or disposed of as a non-hazardous waste. Collected dust from blast cleaning or shot peening operations always contain contaminants from the surface of the parts being processed, and therefore the dust may be classified as a hazardous waste and, as such, must be disposed of according to appropriate Local, State or Federal regulations.

### 7. Handling and storage

#### 7.1. Precautions for safe handling

Keep dust away from sources of ignition.

See section 2 for further details. - [Prevention]:

#### 7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage.

Keep dry to reduce rusting. Observe maximum floor loading limitations.

Store material away from incompatible materials

See section 2 for further details. - [Storage]:

#### 7.3. Specific end use(s)

No data available.

### 8. Exposure controls and personal protection

#### 8.1. Control parameters

<table>
<thead>
<tr>
<th>Exposure</th>
<th>Ingredient</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS No.</td>
<td>Chromium compounds (as Cr (III))</td>
<td>OSHA</td>
<td>0.05 mg/m³ TWA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>0.05 mg/m³ TWA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>0.05 mg/m³ TWA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier No Established Limit</td>
<td></td>
</tr>
</tbody>
</table>

The exposure limits for nuisance dust (particles not otherwise regulated):

- **OSHA PEL**: 15 mg/m³ TWA (total dust)
  - 5 mg/m³ TWA (respirable fraction)
- **ACGIH TLV**: 10 mg/m³ TWA (inhalable fraction)
  - 3 mg/m³ TWA (respirable fraction)
8.2. Exposure controls

Respiratory  If the particulate exposure limit is exceeded, wear NIOSH-approved respiratory protection. According to OSHA, only a Type CE NIOSH-certified blasting airline respirator with positive pressure blasting helmet should be used for abrasive blasting (https://www.osha.gov/Publications/OSHA3697.pdf).

Eyes  Approved safety glasses with side shields should be worn at all times. Safety eyewash stations should be provided in close proximity to the work area.

Skin  Wear protective gloves and clothing to prevent skin contact.

Engineering Controls  Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

Other Work Practices  Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Steel grit is angular in shape and light gray to silver in color. Solid.</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>1371° to 1482°C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>2850° - 3150°C</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Evaporation rate (Ether = 1)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td><strong>Lower Explosive Limit:</strong> Not Applicable</td>
</tr>
<tr>
<td></td>
<td><strong>Upper Explosive Limit:</strong> Not Applicable</td>
</tr>
<tr>
<td>Vapor pressure (Pa)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (Log Kow)</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>930°C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not Measured</td>
</tr>
</tbody>
</table>
9.2. Other information
No other relevant information

10. Stability and reactivity

10.1. Reactivity
Hazardous Polymerization will not occur.

10.2. Chemical stability
Stable under normal circumstances.

10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to avoid
No data available.

10.5. Incompatible materials
No data available.

10.6. Hazardous decomposition products
No hazardous decomposition data available.

11. Toxicological information

### Acute toxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Oral LD50, mg/kg</th>
<th>Skin LD50, mg/kg</th>
<th>Inhalation Vapor LC50, mg/L/4hr</th>
<th>Inhalation Dust LC50, mg/L/4hr</th>
<th>Inhalation Gas LC50 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium compounds</td>
<td>422.00, Rat Category: 4</td>
<td>No data available</td>
<td>No data available</td>
<td>No data applicable</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### Carcinogenicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Source</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium compounds as Cr (III)</td>
<td>OSHA</td>
<td>Not evaluated or listed</td>
</tr>
<tr>
<td>(1302-62-1)</td>
<td>NTP</td>
<td>Not evaluated or listed</td>
</tr>
<tr>
<td></td>
<td>IARC</td>
<td>Not classifiable as to its carcinogenicity to humans (Group 3)</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>Not classifiable as a human carcinogen (A4)</td>
</tr>
</tbody>
</table>

### Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Category</th>
<th>Hazard Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
Serious eye damage/irritation | --- | Not Applicable
Respiratory sensitization | 1 | May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin sensitization | 1 | May cause an allergic skin reaction
Germ cell mutagenicity | --- | Not Applicable
Carcinogenicity | 1a | Not Applicable
Reproductive toxicity | --- | Not Applicable
STOT-single exposure | --- | Not Applicable
STOT-repeated exposure | --- | Not Applicable
Aspiration hazard | --- | Not Applicable

12. Ecological information

12.1. Toxicity
The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and GHS and is not classified as dangerous for the environment, but contains substance(s) dangerous for the environment. See section 3 for details.

Aquatic Ecotoxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>96 hr LC50 fish, mg/l</th>
<th>48 hr EC50 crustacea, mg/l</th>
<th>ErC50 algae, mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium compounds as Cr (III) (7440-47-3)</td>
<td>77.50, Pimephales promelas</td>
<td>1.20, Daphnia magna</td>
<td>580.00 (72 hr), Chlorella pyrenoidosa</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
There is no data available on the preparation itself.

12.3. Bioaccumulative potential
Not Measured

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects
No data available.

13. Disposal considerations

13.1. Waste treatment methods
Observe all federal, state and local regulations when disposing of this substance.

MATERIAL CONTAMINATED IN USE MAY REQUIRE SPECIAL HANDLING.
14. Transport information

<table>
<thead>
<tr>
<th>DOT (Domestic Surface Transportation)</th>
<th>IMO / IMDG (Ocean Transportation)</th>
<th>ICAO/IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
<td>Not Regulated</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>Not Regulated</td>
<td>Not Regulated</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>IMDG: Not Applicable</td>
<td>Air Class: Not Applicable</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

14.5 Environmental hazards
IMDG: Marine Pollutant: No

14.6 Special Precautions for user
No further information

15. Regulatory information

Regulatory Overview
The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA)
All components of this material are either listed or exempt from listing on the TSCA Inventory.

WHMIS Classification
D2A

US EPA Tier II Hazards
Fire: No
Sudden Release of Pressure: No
Reactive: No
Immediate (Acute): Yes
Delayed (Chronic): No

EPCRA 311/312 Chemicals and RQs:
Chromium compounds (as Cr (III)) (5,000.00)

EPCRA 302 Extremely Hazardous:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:
Chromium compounds (as Cr (III))

Proposition 65 - Carcinogens (>0.0%):
Nickel

Proposition 65 - Developmental Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Female Repro Toxins (>0.0%):**
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Male Repro Toxins (>0.0%):**
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**New Jersey RTK Substances (>1%):**
- Chromium compounds (as Cr (III))

**Pennsylvania RTK Substances (>1%):**
- Chromium compounds (as Cr (III))

### 16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H334 May cause allergic or asthmatic symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H413 May cause long lasting harmful effects to aquatic life.