SECTION 1—PRODUCT IDENTIFICATION & COMPANY INFORMATION

PRODUCT NAME
GRAY IRON CASTINGS


PRODUCT IDENTIFICATION (Label Identifier)
CASTING, GRAY IRON

MANUFACTURER’S NAME
DONSCO, INC.

STREET ADDRESS
124 N. FRONT ST.

EMERGENCY TELEPHONE NO.
717-252-1561 EXT 200

MAILING ADDRESS
P. O. BOX 2001

TELEPHONE NO.
717-252-1561

CITY, STATE, ZIP CODE, COUNTRY
WRIGHTSVILLE, PA, 17368

FAX NO.
717-252-5629

E-MAIL ADDRESS/WEBSITE
WWW.DONSCO.COM

RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE
Solid casting; no restrictions

SECTION 2—HAZARD IDENTIFICATION

CLASSIFICATION
Castings are metallic articles that do not present hazards in their original form.

OTHER INFORMATION
1. Grinding castings that have not been cleaned or that contain embedded sand may generate significant amounts of dust containing crystalline silica.
2. Fumes from hot processes may contain other compounds with different exposure limits. Dust or fumes generated by machining, grinding, welding or thermal cutting of the casting may produce airborne contaminants. Consult Sections 3 & 8 for further information.

SECTION 3—COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CHEMICAL NAME/COMMON NAME/SYNONYM</th>
<th>Wt %</th>
<th>CAS NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon (C)</td>
<td>2.5–4.0</td>
<td>7440-44-0</td>
</tr>
<tr>
<td>Chromium (Cr)</td>
<td>0.01–1.5</td>
<td>7440-47-3</td>
</tr>
<tr>
<td>Copper (Cu)</td>
<td>0.01–1.00</td>
<td>7440-50-8</td>
</tr>
<tr>
<td>Iron (Fe)</td>
<td>86.3–96.2</td>
<td>7439-89-6</td>
</tr>
<tr>
<td>Manganese (Mn)</td>
<td>0.2–1.1</td>
<td>7439-96-5</td>
</tr>
<tr>
<td>Nickel (Ni)</td>
<td>0.01–1.5</td>
<td>7440-02-0</td>
</tr>
<tr>
<td>Silicon (Si)</td>
<td>1.0–3.5</td>
<td>7440-21-3</td>
</tr>
<tr>
<td>Tin (Sn)</td>
<td>0.1–0.15</td>
<td>7440-31-5</td>
</tr>
</tbody>
</table>
SECTION 4—FIRST AID MEASURES

EYE CONTACT: Not applicable
SKIN CONTACT: No special requirements
INGESTION: Not applicable
INHALATION: Not applicable

SECTION 5—FIREFIGHTING MEASURES

FLAMMABLE PROPERTIES: Not applicable
EXTINGUISHING MEDIA: Not applicable
PROTECTION OF FIREFIGHTERS: Not applicable

SECTION 6—ACCIDENTAL RELEASE MEASURES

Not applicable

SECTION 7—HANDLING & STORAGE

RECOMMENDED STORAGE
No special requirements

PROCEDURES FOR HANDLING
Proper hand and foot protection is recommended.

SECTION 8—EXPOSURE CONTROLS/ PERSONAL PROTECTION

ENGINEERING CONTROLS
None Required. There are no health hazards from castings in solid form.

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>ACGIH TLV mg/m³</th>
<th>OSHA PEL mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon (C)</td>
<td>N/E</td>
<td>N/E</td>
</tr>
<tr>
<td>Chromium (Cr)</td>
<td>0.5</td>
<td>1</td>
</tr>
<tr>
<td>Copper (Cu)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Iron (Fe)</td>
<td>N/E</td>
<td>N/E</td>
</tr>
<tr>
<td>Manganese (Mn)</td>
<td>0.02 (R); 0.1 (I)</td>
<td>5 (C)</td>
</tr>
<tr>
<td>Nickel (Ni)</td>
<td>1.5 (I)</td>
<td>1</td>
</tr>
<tr>
<td>Silicon (Si)</td>
<td>N/E</td>
<td>15</td>
</tr>
<tr>
<td>Total dust</td>
<td>N/E</td>
<td>5</td>
</tr>
<tr>
<td>Respirable dust</td>
<td>N/E</td>
<td>5</td>
</tr>
</tbody>
</table>

Tin (Sn)

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>ACGLH TLV mg/m³</th>
<th>OSHA PEL mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/E</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

SUPPLEMENTAL INFORMATION

Grinding castings that have not been cleaned or that contain embedded sand may generate significant amounts of dust containing crystalline silica.

Fumes from hot processes may contain other compounds with different exposure limits than those listed above. Dust or fumes generated by machining, grinding, welding or thermal cutting of the casting may produce airborne contaminants. Exposure limits for the most common contaminants are offered as reference. Please consult a competent person for guidance on exposure assessment and controls.

In particular, Hexavalent Chromium is an OSHA Expanded Health Standard; refer to OSHA 29 CFR 1910.1026-Chromium (VI) for complete requirements.
<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>ACGIH TLV mg/m$^3$</th>
<th>OSHA PEL mg/m$^3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium Compounds (as Cr)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chromium (II) inorganic compounds</td>
<td>N/E</td>
<td>0.5</td>
</tr>
<tr>
<td>Chromium (III) inorganic compounds</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Chromium (VI) inorganic compounds, certain water insoluble</td>
<td>0.01</td>
<td>0.005</td>
</tr>
<tr>
<td>Chromium (VI) inorganic compounds, water soluble</td>
<td>0.05</td>
<td>0.005</td>
</tr>
<tr>
<td>Chromium (VI) all forms and compounds</td>
<td>N/E</td>
<td>0.005</td>
</tr>
<tr>
<td>Copper Compounds (as Cu)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fume, as Cu</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td>Dusts and mists, as Cu</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Iron Compounds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iron oxide (Fe$_2$O$_3$) fume</td>
<td>N/E</td>
<td>10</td>
</tr>
<tr>
<td>Iron oxide (Fe$_2$O$_3$)</td>
<td>5 (R)</td>
<td>N/E</td>
</tr>
<tr>
<td>Nickel Compounds (as Ni)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insoluble, inorganic compounds</td>
<td>0.2(I)</td>
<td>1</td>
</tr>
<tr>
<td>Soluble, inorganic compounds</td>
<td>0.1(I)</td>
<td>1</td>
</tr>
<tr>
<td>Nickel oxide</td>
<td>0.2(I)</td>
<td>1</td>
</tr>
<tr>
<td>Tin compounds (as Sn)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tin Oxide &amp; inorganic compounds, except SnH$_4$</td>
<td>2</td>
<td>N/E</td>
</tr>
<tr>
<td>Inorganic compounds, except oxides, as Sn</td>
<td>N/E</td>
<td>2</td>
</tr>
<tr>
<td>Tin Oxides, as Sn</td>
<td>2</td>
<td>N/E</td>
</tr>
</tbody>
</table>

**TERMS**

All exposure limits referenced above are 8 hour time weighted averages (TWA) unless otherwise noted.

- N/E = None Established
- C = Ceiling
- I = Inhalable fraction
- R = Respirable fraction
- TLV = Threshold Limit Value/American Conference of Industrial Hygienists (ACGIH)
- PEL = Permissible Exposure Limit / OSHA
- mg/m$^3$ = milligrams per cubic meter

**PERSONAL PROTECTION:**

Proper hand and foot protection is recommended.

**SECTION 9—PHYSICAL & CHEMICAL PROPERTIES**

**APPEARANCE /PHYSICAL STATE**

Solid, silver gray in color

**ODOR/ODOR THRESHOLD**

None

**VAPOR DENSITY**

Not applicable

**MELTING POINT/FREEZING POINT**

Approximately 2350°F (1300°C)

**SPECIFIC GRAVITY (relative density)**

7.85 g/cm$^3$ for iron

**BOILING POINT**

5000°F (2750°C) for iron

**VAPOR PRESSURE**

Not applicable

**FLASH POINT**

Not applicable for solid castings

**EVAPORATION RATE**

Not applicable

**FLAMMABILITY**

Not flammable

**SOLUBILITY IN WATER**

Insoluble

**UPPER AND LOWER FLAMMABILITY LIMITS**

Not applicable for solid castings

**pH**

Not applicable

**AUTO IGNITION TEMPERATURE**

Not applicable

**VISCOSITY**

Not applicable
DECOMPOSITION TEMPERATURE
Not applicable
PARTITION COEFFICIENT
Not applicable

SECTION 10—STABILITY & REACTIVITY
CHEMICAL STABILITY
Stable
CONDITIONS TO AVOID
None
REACTIVITY
Not reactive
INCOMPATIBLE MATERIALS
None
HAZARDOUS DECOMPOSITION PRODUCTS
None
POSSIBILITY OF HAZARDOUS REACTIONS
Not applicable

SECTION 11—TOXICOLOGICAL INFORMATION
POTENTIAL HEALTH EFFECTS
EYE CONTACT: None
SKIN: None
INGESTION: None
INHALATION: None

Carcinogen Classification of Ingredients

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>OSHA</th>
<th>NTP</th>
<th>IARC</th>
<th>TARGET ORGAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel (metal)</td>
<td>NL</td>
<td>K</td>
<td>2B</td>
<td>Lung, Nose</td>
</tr>
</tbody>
</table>

TERMS
OSHA—Occupational Safety & Health Administration
Y = Listed as a Human Carcinogen
NTP—National Toxicology Program
K = Known to be a Human Carcinogen
R = Reasonably Anticipated to be a Human Carcinogen (RAHC)
IARC—International Agency for Research on Cancer
1 = Carcinogen to Humans
2A = Probably Carcinogenic to Humans
2B = Possibly Carcinogenic to Humans
3 = Unclassifiable as to Carcinogenicity in Humans
4 = Probably not Carcinogenic to Humans
Other
NL = Not Listed

SECTION 12—ECOLOGICAL INFORMATION
ECOTOXICITY
Not applicable
PERSISTENCE AND DEGRADABILITY
Not applicable
BIOACCUMULATION POTENTIAL
Not applicable
MOBILITY IN SOIL
Not applicable
OTHER ADVERSE EFFECTS
Not applicable

SECTION 13—DISPOSAL CONSIDERATIONS
Recover or recycle if possible. Dispose of according to federal, state and local regulations. Dust collected from machining, welding, etc. may be classified as a hazardous waste. Consult federal, state and local regulations.

SECTION 14—TRANSPORT INFORMATION
US DEPARTMENT OF TRANSPORTATION (DOT)-HMR (Hazardous Materials Registration)
Not Regulated
CANADIAN TRANSPORTATION OF DANGEROUS GOODS (TDG)
Not regulated
UN SHIPPING NAME
Not regulated
UN NUMBER
Not regulated
TRANSPORT HAZARD CLASS  
Not regulated

PACKING GROUP  
Not regulated

ENVIRONMENTAL HAZARDS  
None

LABEL(S) REQUIRED?  
No

TRANSPORT IN BULK  
Not applicable

SPECIAL SHIPPING INFORMATION  
Not applicable

SECTION 15—REGULATORY INFORMATION

US-OSHA (Hazard Communication Standard)  
Reference 29 CFR 1910.1200 and 1910.1000. A finished casting is an article as defined in the OSHA Hazard Communication Standard 29CFR 1910.1200 (c). Dust or fumes generated by cleaning, machining, grinding, or welding of the casting may produce airborne contaminants, such as chromium, copper, iron, manganese, nickel, silicon, tin and silica. For hexavalent chromium references see 29 CFR 1910.1026.

US-EPA (Toxic Substances Control Act—TSCA)  
All components of these products are on the TSCA inventory list or are excluded from listing.

US-EPA (SARA Title III)  
Releases to the environment of Chromium, Copper, Manganese and Nickel, may be subject to reporting under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 72.

CANADA-WHMIS (Workplace Hazardous Materials Information System)  
This SDS has been prepared according to the hazard criteria of the Controlled Product Regulations (CPR) and the SDS contains the information required by the CPR.

CANADA DSL (Domestic Substance List) Inventory Status  
All components of these products are on the DSL Inventory.

CEPA (Canadian Environmental Protection Act)  
Chromium and nickel are on the CEPA Priorities Substances Lists.

EINECS No. (European Inventory of Existing Commercial Chemical Substances)  
All components of these products are on the EINECS list.

RoHS (Restriction of Certain Hazardous Substances) Compliance  
Castings comply with RoHS.

CALIFORNIA PROPOSITION 65 Compliance  
WARNING: This product contains or produces chemicals known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code 25248.5 et seq.)

US STATE REGULATORY INFORMATION  
Some of the components listed in Section 3 may be covered under specific state regulations.

SECTION 16—OTHER INFORMATION

SDS SHEET PREPARED BY  
American Foundry Society, Inc.
Occupational Safety & Health Committee (10-Q)

DATE  
10/13

NOTE:  
This data and label information is offered in good faith as typical values and not as a product specification. No warranty either expressed or implied is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review the recommendations in specific context of the intended use and determine if they are appropriate.
**PRODUCT IDENTIFIER**

**SC-000-041 Rev. 12**

**GRAY IRON CASTINGS**

**SUPPLIER IDENTIFICATION**

Company Name **DONSCO, INC.**

Street Address **124 N. FRONT ST.**

Mailing Address: **P. O. BOX 2001**

City **WRIGHTSVILLE** State **PA**

Zip/Postal Code **17368** Country **USA**

Emergency Phone Number **717-252-1581 X 202**

Other Info

**HAZARD PICTOGRAMS**

None*

**SIGNAL WORD**

None*

**PRECAUTIONARY STATEMENTS**

None*

**HAZARD STATEMENTS**

None*

*Castings do not present hazards in their original form.

**OTHER INFORMATION**

1. Grinding castings that have not been cleaned or that contain embedded sand may generate significant amounts of dust containing crystalline silica.

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