1 Identification

- **Product identifier**
- **Trade name:** Electric Arc Steel Furnace Slag
- **CAS Number:**
  91722-10-0
- **Relevant identified uses of the substance or mixture and uses advised against**
  No further relevant information available.

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:**
    Edward C. Levy Company
    9300 Dix Avenue
    Dearborn, Michigan 48120
    Phone - (313) 429-2200
    Fax - (219) 465-7313
    www.edwclevy.com
  - **Emergency telephone number:**
    John J. Yzenas Jr.
    Director of Technical Services
    Phone - (219) 741-6098
    jyzenas@levyco.net

2 Hazard(s) Identification

- **Classification of the substance or mixture**
  - GHS07
    - Acute Tox. 4  H332  Harmful if inhaled.
    - Skin Irrit. 2  H315  Causes skin irritation.
    - STOT SE 3  H335  May cause respiratory irritation.
    - Eye Irrit. 2B  H320  Causes eye irritation.

- **Label elements**
  - **GHS label elements**
    The substance is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**
    - GHS07

- **Signal word** Warning
- **Hazard-determining components of labeling:**
  Electric Arc Furnace Slag (EAF)
- **Hazard statements**
  Harmful if inhaled.
  Causes skin and eye irritation.
  May cause respiratory irritation.
- **Precautionary statements**
  Avoid breathing dust/fume/gas/mist/vapors/spray.
Trade name: Electric Arc Steel Furnace Slag

Use only outdoors or in a well-ventilated area.
Wear protective gloves.
Wash thoroughly after handling.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a poison center/doctor if you feel unwell.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national/international regulations.

- Classification system:
  - NFPA ratings (scale 0 - 4)
    - Health = 2
    - Fire = 0
    - Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    - Health = 2
    - Fire = 0
    - Reactivity = 0

- Hazard(s) not otherwise classified (HNOC): None known

3 Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larnite, beta-dicalcium-silicate [Beta - Ca₂SiO₄]</td>
<td>91722-10-0</td>
<td>Mixture of substances listed below with nonhazardous additions.</td>
</tr>
<tr>
<td>Srebrodolskite, calcium-iron-oxide [Ca₂Fe₂O₅]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brownmillerite, calcium-aluminum-iron-oxide [Ca₂AlFeO₅]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spinel [Me₂⁺Me³⁺₂O₅]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wuestite, Solid solution of iron(II)-oxide with MgO and MnO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gehlenite, calcium-aluminum-silicate [Ca₂Al₂SiO₇]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bredigite, calcium-magnesium-silicate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Chemical characterization: Substance
- CAS No. Description
  91722-10-0
  - Description: Mixture of substances listed below with nonhazardous additions.

- Dangerous Components:
  - Electric Arc Furnace Slag (EAF) 100%
    - Acute Tox. 4, H332; Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320
4 First-aid measures

- Description of first aid measures
  - General information:
    Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
  - After inhalation:
    Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Seek medical attention for discomfort or if coughing or other symptoms do not subside.
  - After skin contact:
    Wash with cool water and a pH neutral soap or a mild skin detergent. Seek medical attention for rash, burns, irritation and prolonged unprotected exposure.
  - After eye contact:
    Flush with water immediately for at least 15 minutes, including under the lids to remove all particles. Seek medical attention for abrasions and burns.
  - After swallowing:
    Do not induce vomiting. If conscious, have person drink plenty of water. Seek medical attention or contact poison control center immediately.
- Information for doctor:
  - Most important symptoms and effects, both acute and delayed: No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed
    No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
  - Suitable extinguishing agents:
    CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
  - Special hazards arising from the substance or mixture: No further relevant information available.
  - Advice for firefighters
  - Protective equipment:
    As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  - Wear protective equipment. Keep unprotected persons away.
  - Environmental precautions: None
  - Methods and material for containment and cleaning up:
    Pick up mechanically or by hand tools and reuse or dispose of as a common non-hazardous material in accordance with applicable federal, state and local regulations. Wetting the material prior to clean up may be necessary to suppress dust.
  - Reference to other sections
    See Section 7 for information on safe handling.
    See Section 8 for information on personal protection equipment.
    See Section 13 for disposal information.

7 Handling and storage

- Handling:
  - Precautions for safe handling
    Use personal protection equipment as outlined in section 8.
    Respirable dust may be generated during processing, handling, and storage.

(Contd. on page 4)
**Trade name: Electric Arc Steel Furnace Slag**

- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
  - **Requirements to be met by storerooms and receptacles:** No special requirements.
  - **Information about storage in one common storage facility:** Not required.
  - **Further information about storage conditions:** None.
- **Specific end use(s)**: No further relevant information available.

**9 Physical and chemical properties**

- **Information on basic physical and chemical properties**
  - **General Information**
  - **Appearance:**
    - **Form:** Granulate
    - **Color:** Grey
    - **Odor:** Mild Sulfur
    - **Odor threshold:** Not determined.
Trade name: Electric Arc Steel Furnace Slag

- **pH-value:** 9.5-12.5 (in water)

- **Change in condition**
  - Melting point/Melting range: Not determined.
  - Boiling point/Boiling range: Not determined.

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Not determined.

- **Ignition temperature:**
  - Decomposition temperature: Not determined.

- **Auto igniting:** Product is not self-igniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.

- **Vapor pressure:** Not applicable.

- **Density:** 3.4-3.8 (Bulk)

- **Relative density:** Not determined.

- **Vapor density:** Not applicable.

- **Evaporation rate:** Not applicable.

- **Solubility in / Miscibility with Water:** Insoluble.

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**
  - Dynamic: Not applicable.
  - Kinematic: Not applicable.

- **Other information:** No further relevant information available.

### Stability and reactivity

- **Reactivity** No further relevant information available.

- **Chemical stability** Un-weathered steel slag may contain potentially expansive compounds (Free Lime)

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

- **Possibility of hazardous reactions** No dangerous reactions known.

- **Conditions to avoid** No further relevant information available.

- **Incompatible materials:** No further relevant information available.

### Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity:**
  - **Corrosivity:**
    - Non-Corrosive (OECD 403/431)
  - **Primary irritant effect:**
    - Elevated pH in moist conditions may cause irritation to the skin, and eyes or aggravate existing conditions. Can cause serious eye irritation.

- **Additional toxicological information:**
  - The product shows the following dangers according to internally approved calculation methods for preparations:
    - Harmful / Irritant

(Contd. on page 6)
Trade name: Electric Arc Steel Furnace Slag

- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    Iron and steel furnace slag is not listed as a carcinogen by IARC; however, slag contains trace amounts of crystalline silica which is classified by IARC as known human carcinogens.
    None of the ingredients are listed.

- NTP (National Toxicology Program)
  Substance is not listed.

- OSHA-Ca (Occupational Safety & Health Administration)
  Substance is not listed.

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability No further relevant information available.

- Behavior in environmental systems:
  - Bioaccumulative potential No further relevant information available.
  - Mobility in soil No further relevant information available.

- Additional ecological information:
  - General notes: Not known to be hazardous to water.
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.
  - Other adverse effects No further relevant information available.

13 Disposal considerations

- Waste treatment methods
  - Recommendation:
    Observe all federal, state and local environmental regulations when disposing of this material.

- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - DOT, ADR, ADN, IMDG, IATA Non-Regulated Material
  - UN proper shipping name
  - DOT, ADR, ADN, IMDG, IATA Non-Regulated Material
  - Transport hazard class(es)
    - DOT, ADR, ADN, IMDG, IATA Non-Regulated Material
  - Class
  - Packing group
  - DOT, ADR, IMDG, IATA Non-Regulated Material
  - Environmental hazards: Not applicable.
  - Special precautions for user
    Some areas require the use of tarps on trucks for containment of dust.

- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.
- UN "Model Regulation": -

(Contd. on page 7)
15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sara
  - Section 355 (extremely hazardous substances):
    Substance is not listed.
  - Section 313 (Specific toxic chemical listings):
    Substance is not listed.
  - TSCA (Toxic Substances Control Act):
    Substance is not listed.
  - California Proposition 65
    - Chemicals known to cause cancer:
      Substance is not listed.
    - Chemicals known to cause reproductive toxicity for females:
      Substance is not listed.
    - Chemicals known to cause reproductive toxicity for males:
      Substance is not listed.
    - Chemicals known to cause developmental toxicity:
      Substance is not listed.
  - Carcinogenic categories
    - EPA (Environmental Protection Agency)
      Substance is not listed.
    - TLV (Threshold Limit Value established by ACGIH)
      Substance is not listed.
    - NIOSH-Ca (National Institute for Occupational Safety and Health)
      Substance is not listed.
  - GHS label elements
    The substance is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms

  GHS07

- Signal word Warning
- Hazard-determining components of labeling:
  Electric Arc Furnace Slag (EAF)
- Hazard statements
  Harmful if inhaled.
  Causes skin and eye irritation.
  May cause respiratory irritation.
- Precautionary statements
  Avoid breathing dust/fume/gas/mist/vapors/spray.
  Use only outdoors or in a well-ventilated area.

(Contd. on page 8)
Trade name: Electric Arc Steel Furnace Slag

Wear protective gloves.
Wash thoroughly after handling.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a poison center/doctor if you feel unwell.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national/international regulations.

**National regulations:**
Non-Regulated Material

**State Right to Know**

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<th>Electric Arc Furnace Slag (EAF)</th>
<th>100%</th>
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<tr>
<td></td>
<td>1 Acute Tox. 4, H332; Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320</td>
<td></td>
</tr>
</tbody>
</table>

None of the ingredients are listed

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

**Date of last revision** 08/10/2015 Rev-1

**Abbreviations and acronyms:**
ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

* Data compared to the previous version altered. Previous Version 07/13/2015