

FOR MANGANESE (0.02 mg/m<sup>3</sup>) WILL BE REACHED BEFORE THE GENERAL LIMIT FOR WELDING FUMES OF 5 mg/m<sup>3</sup> IS REACHED. MONITOR FUMES FOR MAGANESE LEVELS. The only way to determine the true identity of the decomposition products is by sampling and analysis. The composition and quantity of the fumes and gases to which a worker may be overexposed can be determined from a sample obtained from inside the welder's helmet, if worn, or in the worker's breathing zone. See ANSI/AWS F1.1 "Method for Sampling Airborne Particles Generated by Welding and Allied Processes." Available from the American Welding Society.

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**4. FIRST AID MEASURES**

**Inhalation:** Remove victim to fresh air if effects occur.

**Skin:** Wash off with soap and plenty of water.

**Eyes:** Irrigate with water for several minutes.

**Ingestion:** Rinse mouth.

**Note to physician:** No particular advice.

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**5. FIRE FIGHTING MEASURES**

**Means of extinguishing:** No danger requiring special measures.

**Special protective equipment when fighting fire:** none.

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**6. ACCIDENTAL RELEASE MEASURES**

**Individual precautions:** Avoid dust formation/ breathing dust.

**Environment protection precautions:** No particular indications.

**Cleaning measures:** Remove spoiled product mechanically.

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**7. HANDLING AND STORAGE**

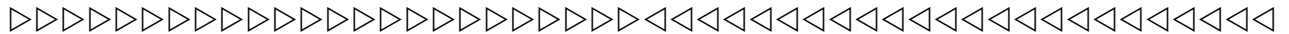
**7.1 HANDLING**

With standard transportation equipment.

**7.2 STORAGE**

Store in a dry place in closed packages. Prevent contact with food.

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**8. EXPOSURE CONTROLS/ PERSONAL PROTECTION**

**Technical measures:** Avoid Fume inhalation.  
Avoid grinding dust inhalation

**Exposure limits:** see section 2.

**Personal protection:**

- **Respiratory protection:** use an air purifying dust respirator.
- **Hands protection:** wear appropriate gloves to prevent skin contact.
- **Eyes protection:** wear-brazing glasses.
- **Skin protection:** wear appropriate overalls to prevent skin or body contact.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical state:** solid.

**Odor :** none

**pH :** non applicable

**Melting point:** 1583-1620° F  
870-885° C

**Relative density:** rod 7,6g/cm<sup>3</sup>

**Solubility:** insoluble in water

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**10. STABILITY AND REACTIVITY**

**STABILITY**

**Conditions to avoid:** not applicable.

**Materials to avoid:** unknown.

**Hazardous decomposition products:** unknown.

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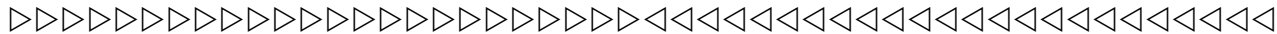
**11. TOXICOLOGICAL INFORMATION**

**Effects of acute exposure**

**Local effects:** not applicable.

**Inhalation:** not applicable.

**Ingestion:** not applicable.



**Contact with skin:** may cause dermatitis in sensitised individuals.

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**12. ECOLOGICAL INFORMATION**

**About product:** data are unknown  
**About ingredients:** data are unknown.

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**13. DISPOSAL CONSIDERATIONS**

**Product:** For product elimination, consult recycling companies or appropriate local authority.  
**Package:** May be disposed in approved landfills provided local regulations are observed.

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**14. TRANSPORT INFORMATION**

**INTERNATIONAL REGULATIONS:**

**Land shipment:** no hazard  
- Rail / route (RID/ADR):

**Sea shipment:** no hazard

**Shipment by air:** no hazard

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**15. REGULATORY INFORMATION**

**Label CEE:** not necessary  
**Danger symbols and indications:**  
**R-Phrases :**

**S-Phrases :**

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**16. OTHER INFORMATION**

The information in this document is believed to be correct as of the date issued. However, no warranty is expressed to be implied regarding the accuracy or completeness of this information. This information and product are furnished on the condition that the person receiving them shall make his own determinations as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.

This Material Safety Data Sheet complies with the EC directives 91/155/EEC and 93/112/EEC  
Including modifications 2001/58/EC.

Complies with OSHA Communication Standard 29 CFR 1910.1200 and Superfund Amendments and Reauthorization Act (SARA) of 1986 Public Law 99-499.

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