



Material Safety Data Sheet

Date Originated: 26/03/2010

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NFPA	HCS Risk Phrases	Protective Clothing
	<p>HCS CLASS: Toxic. HCS CLASS: Irritating substance. HCS CLASS: Sensitizing substance. HCS CLASS: Target organ effects. HCS CLASS: Flammable liquid having a flash point lower than 23°C (73.4°F).</p>	

Section 1. Chemical Product and Company Identification

Product Name

MC-Ferroclad 100

Synonym

Not available.

Manufacturer

SUPPLIER:
 Wasser Corporation
 4118 B PL NW, Suite B
 Auburn, WA 98001, US
 Phone# 253-850-2967

Chemical Family

Not applicable. (Paint)

In case of Emergency

EMERGENCY PHONE NUMBERS:
 USA and Canada: 1-800 424-9300
 International: 1-703 527-3887

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	TLV/PEL	LC ₅₀ /LD ₅₀
Zinc	7440-66-6	30-60	TWA: 10 (mg/m ³) from ACGIH (TLV)	Not available.
Ferric oxide	1309-37-1	5-10	TWA: 5 (mg/m ³) from ACGIH (TLV)	ORAL (LD50): Acute: 10000 mg/kg [Rat].
Tert Butyl Acetate	540-88-5	7-13	TWA: 200 (ppm) from ACGIH (TLV) TWA: 200 (ppm) from OSHA	ORAL (LD50): Acute: 4100 mg/kg [Rat]. DERMAL (LD50): Acute: 2000 mg/kg [Rabbit].
Modified MDI	Not disclosed	5-10	Not available.	Not available.
Hydrous calcium magnesium silicate mix	14807-96-6	3-7	TWA: 2 (mg/m ³) from ACGIH (TLV)	Not available.
Methyl n-amyl ketone	110-43-0	1-5	TWA: 50 (ppm) from ACGIH (TLV) TWA: 100 (ppm) from OSHA (PEL)	DERMAL (LD50): Acute: 12600 mg/kg [Rabbit]. VAPOR (LC50): Acute: 3000 ppm 4 hour(s) [Rat].
Light aromatic solvent naphtha (petroleum)	64742-95-6	1-5	TWA: 50 (ppm) from ACGIH (TLV)	DERMAL (LD50): Acute: 14000 mg/kg [Rabbit]. VAPOR (LC50): Acute: 3670 ppm 4 hour(s) [Rat].
Isocyanic acid, polymethylene polyphenylene ester	9016-87-9	1-5	TWA: 0.005 CEIL: 0.02 (ppm) from ACGIH (TLV) TWA: 0.051 (mg/m ³) from ACGIH (TLV)	ORAL (LD50): Acute: 10000 mg/kg [Rat]. DERMAL (LD50): Acute: 6000 mg/kg [Rabbit]. VAPOR (LC50): Acute: 103 ppm 4 hour(s) [Rat].
Diphenylmethane-4,4'-diisocyanate	101-68-8	0-1	TWA: 0.005 (ppm)	ORAL (LD50): Acute: 10000 mg/kg [Rat]. DERMAL (LD50): Acute: 10000 mg/kg [Rabbit]. VAPOR (LC50): Acute: 36 ppm 4 hour(s) [Rat].

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Section 3. Hazards Identification

Routes of Entry: Inhalation. Skin contact (absorption). Eye contact. Ingestion.

Potential Acute Health Effects

Eyes: Liquid or spray mist may severely irritate eyes. Inflammation of the eye is characterized by redness, watering, and itching.

Skin: This product may irritate skin upon contact. Harmful if absorbed through the skin. May cause skin sensitization. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Ingestion: Dangerous in case of ingestion. Irritation or chemical burns of the mouth, pharynx, esophagus and stomach can develop following ingestion of this product. May cause headaches, weakness, nausea, vomiting and diarrhea. Even small amounts of liquid aspirated into lungs during ingestion or from vomiting may cause mild to severe pulmonary injury and possibly death.

Inhalation: Harmful if inhaled (irritant, sensitizer). Over-exposure by inhalation of the vapors/spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. May cause nausea, headaches and dizziness. May cause lung sensitization by inhalation. Massive exposure can cause unconsciousness or death.

Potential Chronic Health Effects

Eyes: Repeated or prolonged contact with spray mist may produce chronic eye irritation.

Skin: Repeated skin exposure can produce local skin destruction, or dermatitis, possibly sensitization.

Ingestion: May be fatal if swallowed.

Inhalation: Repeated or prolonged inhalation of vapors/spray mist may lead to chronic respiratory irritation. May cause sensitization by inhalation.

Other chronic effects on Humans

Sensitive individuals may develop eczema and/or asthma on inhalation of this material. However, in light of good industrial hygiene, exposure to any chemical should be kept to a minimum.

Section 4. First Aid Measures

Eye Contact Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. DO NOT use an eye ointment. Seek medical attention.

Skin Contact Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Rinse with plenty of running water (15-30 minutes). If irritation persists, seek medical attention.

Hazardous Skin Contact If the product gets onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the person under shower. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Rinse with plenty of running water (15-30 minutes). Seek medical attention. Wash contaminated clothing before reusing.

Inhalation Allow the person to rest in a well ventilated area. Loosen tight clothing around the person's neck and waist. If symptoms persist, seek medical advice immediately (show the label when possible).

Hazardous Inhalation Evacuate the person to a safe area as soon as possible. Loosen tight clothing around the person's neck and waist. If the person is not breathing, administer mouth-to-mouth resuscitation. Warning: It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation if the inhaled material is toxic, infectious or corrosive. Oxygen may be administered if breathing is difficult. Seek medical attention.

Ingestion DO NOT induce vomiting. Have conscious person drink several glasses of water or milk. Seek immediate medical attention.

Hazardous Ingestion DO NOT induce vomiting. Have conscious person drink several glasses of water or milk. Never give an unconscious person anything to ingest. Even small amounts of liquid aspirated into lungs during ingestion or from vomiting may cause mild to severe pulmonary injury and possibly death. If breathing is difficult, administer oxygen. If the person is not breathing, administer mouth-to-mouth resuscitation. WARNING: It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the material is toxic, infectious or corrosive. Avoid mouth-to-mouth contact by using mouth guards or shields. Seek immediate medical attention.

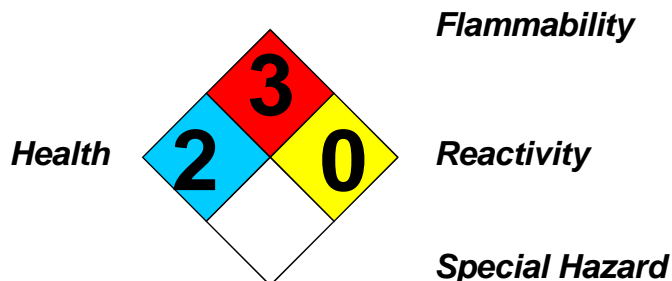
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Section 5. Fire and Explosion Data

Flammability of the Product	Flammable.
Auto-Ignition Temperature	The lowest known value is 393°C (739.4°F) (Methyl n -amyl ketone).
Flash Points	The lowest known value is CLOSED CUP: 4.4°C (39.9°F). (Tert Butyl Acetate)
Flammable Limits	The greatest known range is LOWER: 1.1% UPPER: 7.9% (Methyl n-amyl ketone)
Products of Combustion	Carbon oxides (CO, CO2), and other toxic compounds (nitrogen oxides, isocyanate vapors and traces of hydrogen cyanide).
Fire Hazards in Presence of Various Substances	Flammable in presence of open flames and sparks.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Yes.
Fire Fighting Media and Instructions	Flammable liquid, insoluble in water. SMALL FIRE: Use DRY chemicals, CO2, soda ash or lime. LARGE FIRE: Use water spray or fog. Never direct a water jet in the container in order to prevent any splashing of the product which could cause spreading of the fire. Cool the containers with water spray or fog in order to prevent pressure build-up, autoignition or explosion. Firefighters should be equipped with self-contained breathing apparatus to protect against toxic and irritating fumes. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion.
Special Remarks on Fire Hazards	Vapor may travel considerable distance to source of ignition and flash back. When heated to decomposition it emits highly toxic fumes.
Special Remarks on Explosion Hazards	Container explosion may occur under fire conditions or when heated (due to pressure build-up). Vapor forms explosive mixture with air between upper and lower flammable limits.



Section 6. Accidental Release Measures

Small Spill	Absorb with an inert material and place in an appropriate waste disposal container. Treat with a neutralizing solution (5% ammonia water, or 5-10 % sodium carbonate in water). Wear suitable protective clothing and respirator.
Large Spill	Poisonous flammable liquid, insoluble or very slightly soluble in water. Ventilate. Eliminate all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. A self-contained breathing apparatus should be used to avoid inhalation of the product. Warn personnel to move away. Stop leak if without risk. DO NOT touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Cover with WET earth, sand or other non-combustible material, or with DRY absorbent wetted with a neutralizing solution (5% ammonia water, or 5-10% sodium carbonate in water). After 15 minutes transfer it to waste container, or put in open drums - fill the drums half way. Do not seal - evolution of CO2 can cause pressure build-up. Keep drums (not sealed) outside, or in safe ventilated area for a few days. After clean-up monitor the vapors concentration. Use the neutralizing solution to decontaminate the surface and the tools. The spilled material, clean-up residues, and spent decontamination solution are hazardous wastes. Call for assistance on disposal.

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Section 7. Handling and Storage

Precautions Keep locked up and out of reach of children. Manipulate in a well ventilated area. In case of insufficient ventilation, wear suitable respiratory equipment. Do not breathe gas/fumes/vapor/spray. Avoid contact with skin and eyes. Contact lenses should not be worn. Keep away from foodstuff, drinks and tobacco. Eating, drinking and smoking should be prohibited in area where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Ensure that eyewash station and safety shower are proximal to the work-station location. In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible). Individuals with respiratory problems (asthma, chronic bronchitis), or allergic to isocyanates or solvents, should avoid any contact with this product. ATTENTION: Isocyanate vapors cannot be smelled until concentrations are well above the safe exposure limit! Ground all equipment containing material (during handling, mixing and spraying).

Storage Keep away from heat. Keep away from sources of ignition. Keep container tightly closed and in a well-ventilated place. Contains moisture sensitive material; store in a dry place. Keep away from incompatibles.

Section 8. Exposure Controls/Personal Protection

Engineering Controls Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower are proximal to the work-station location. Do air monitoring if possible.

Personal Protection During mixing, handling and application: Splash goggles. Full protective clothing. Gloves (impervious). Suitable respiratory equipment. When air concentrations are not known (or above the TLV), an air-supplied respirator or SCBA (self-contained breathing apparatus) is required. Refer to OSHA Respiratory Protection Standard (29 CFR 1910.134). When welding, refer to OSHA Standard (29 CFR 1926.354): Welding, Cutting and Heating in Way of Preservative Coatings.
ATTN: Air-purifying (cartridge type) respirators are not approved for protection against isocyanates due to their low warning properties.

Personal Protection in Case of a Large Spill Splash goggles. Full suit. Boots. Gloves (impervious). Self-contained breathing apparatus (for above TLV, or unknown vapor concentrations), must be used to avoid inhalation of the product.

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid.	Odor	Aromatic.
Molecular Weight	Not applicable.	Taste	Not available.
pH (1% soln/water)	Neutral.	Color	Green.
Boiling Point	The lowest known value is 144°C (291.2°F). Weighted average: 174.55°C (346.2°F)	Odor Threshold	ATTENTION: ISOCYANATE VAPORS CANNOT BE SMELLED UNTIL CONCENTRATIONS ARE WELL ABOVE THE SAFE EXPOSURE LIMIT!
Melting Point	May start to solidify at -2°C (28.4°F). Weighted average: -13.43°C (7.8°F)	Evaporation rate	0.42 (Light aromatic solvent naphtha (petroleum)).compared to Butyl acetate.
Critical Temperature	Not available.	Viscosity	Not available.
Specific Gravity	2.36 (Water = 1)	Water/Oil Dist. Coeff.	0
Vapor Pressure	The highest known value is 34 mm of Hg (@ 20°C) (Tert Butyl Acetate). Weighted average: 23.36 mm of Hg (@ 20°C)	Ionicity (in Water)	Not available.
Vapor Density	The highest known value is 4.3 (Air = 1) (Light aromatic solvent naphtha (petroleum)). Weighted average: 4.14 (Air = 1)	Dispersion Properties	Is not dispersed in water.
Volatility	39% (v/v). 14% (w/w).	Solubility	Insoluble in water.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Not available.
Incompatibility with various substances	Incompatible with water, strong oxidizing agents, amines, strong bases, strong acids, alcohols. Absorbs moisture from the air. Reacts slowly with water to liberate CO2 gas.
Corrosivity	Not considered to be corrosive for glass and metals according to our data base.
Special Remarks on Reactivity	No additional remarks.

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Section 11. Toxicological Information

Routes of Entry	Inhalation. Skin contact (absorption). Eye contact. Ingestion.
Toxicity to Animals	See: Section 2
Chronic Effects on Humans	Sensitive individuals may develop eczema and/or asthma on inhalation of this material. However, in light of good industrial hygiene, exposure to any chemical should be kept to a minimum.
Other Toxic Effects on Humans	See: Section 3
Special Remarks on Toxicity to Animals	No additional remark.
Special Remarks on Chronic Effects on Humans	Isocyanates are not known to cause cancer in humans, but may cause skin and respiratory sensitization in humans. Sensitive individuals may develop eczema and/or asthma on inhalation of this material. Exposure may cause asthma, dermatitis and pulmonary oedema; effects may be delayed. Reports have associated repeated and prolonged occupational exposure to solvents with permanent brain and nervous system damage, and other systemic effects. Intentional misuse by deliberately concentrating and inhaling vapors may be harmful or fatal.
Special Remarks on other Toxic Effects on Humans	Exposure can cause nausea, headache and vomiting. Over-exposure can cause lung irritation, chest pain and oedema which may be fatal. Sensitizer - skin and inhalation.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Not available.
Toxicity of the Products of Biodegradation	Not available.
Special Remarks on the Products of Biodegradation	No additional remarks.

Section 13. Disposal Considerations

Waste Disposal	In accordance with municipal, state, and federal regulations. Consult your local or regional authorities. Empty containers must be handled with care due to product residue. Do not heat or cut empty containers with electric or gas torch.
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Section 14. Transport Information

DOT Classification	DOT CLASS 3: Flammable liquid with a flash point lower than 23°C (73.4°F). PG: II
DOT Identification number	PIN: UN1263 - Paint.
Special Provisions for Transport	No specific remarks.

DOT (Pictograms)



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Section 15. Other Regulatory Information and Pictograms

Other Regulations OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). TSCA (Toxic Substance Control Act): All components of this product are listed on the TSCA Inventory.

Other Classifications WHMIS (Canada)

DSCL (EEC)

Hazardous Material Information System (U.S.A.)

Health Hazard	(2)
Fire Hazard	(3)
Reactivity	(0)
Personal Protection	(X)

National Fire Protection Association (U.S.A.)

Health



Fire Hazard

Reactivity

Specific hazard

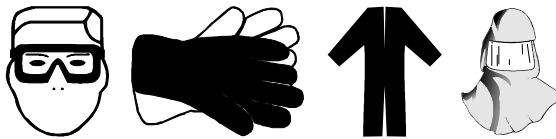
WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Clothing (Pictograms)



Section 16. Other Information

References Manufacturer's MSDS, RTECS, NIOSH, CCOHS.

Other Special Considerations Medical supervision of all employees who come in contact with this product is recommended (pre-employment and periodic medical examination). Individuals with respiratory problems (asthma, chronic bronchitis), or allergic to isocyanates or solvents, should avoid any contact with this product.

Validated by HS Reg.Depart.Reg.SS on 26/03/2010.

Verified by HS Reg.Depart.Reg.SS.

Printed 26/03/2010.

EMERGENCY PHONE NUMBERS:

USA and Canada: 1-800 424-9300

International: 1-703 527-3887

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