



Section I
 Manufacturer's Name: JOHNSON MANUFACTURING COMPANY
 Address: 114 East Grove Rd., Princeton, Iowa 52758
 Emergency Telephone Number: Day (319) 289-5123 After hrs. Chestatee 1-800-421-9100
 Chemical Name: Tin-Lead-Solder
 Trade Name: Solder, Solid Solder
 and Synonyms: Tin-Lead-Solder
 Chemical Formula: Sn + Pb

Section II - Hazardous Ingredients

Public, Preservatives, and Solvents	% (T/V) (Unit)	Admix and Metallic Contaminants	% (T/V) (Unit)
Formant		Lead	0 - 100
Catalyst		Antimony	30 ug/Hr
Vehicle		99% Sn 1% Pb through 1% Sn 99% Pb	
Solvents		Flux Coating or Core Flux	
Address		Other: .2% - .5% Antimony	
Others			

* Hazardous Mixtures of Other Liquids, Solids or Gases

Solder + HCl or H₂SO₄ give off ARSINE (AsH₃) or STIBINE (SbH₃)

% (T/V) (Unit): .05 ppm

Section III - Physical Data

Boiling Point (°F)	Specific Gravity (H ₂ O=1)	Vapor Pressure (mm Hg)	Vapor Density (air=1)	Evaporation Rate	Solubility in Water
2948		1.0 @ 93° C		not volatile	not soluble
					Appearance and Odor: Silver gray solid with no odor

Section IV - Fire and Explosion Hazard Data

Flash Point (Closed Cup): N/A

Flammable Limits: Lower: N/A, Upper: N/A

Expanding Media: N/A

Special Fire Fighting Procedures: In case of high temperature fire (above 1500° F.), toxic fumes can be generated, use self sustaining respiratory suit.

Section V - Health Hazard Data

Inhalation: 30 ug/Hr over 8 hour period.

Effects of Overexposure: See OSHA subpart Z appendix A & B (29CFR 1910-1013)

Emergency First Aid Procedures: Extremely large exposure seek medical attention immediately.

Section VI - Reactivity Data

Reactivity	Unstable	Conditions to Avoid
Stable		
Incompatibility (Materials to Avoid):	X	Strong oxidizing acids

Hazardous Decomposition Products: None

Hazardous Polymerization: May Occur

Conditions to Avoid: None

Will Not Occur: X

Section VII - Spill or Leak Procedures

Steps to be Taken in Case of Material Released or Spilled: Vacuum, absorb or flush. Main hazard airborne particles - do not blow with air, sweep or use other methods which send dust into atmosphere.

Waste Disposal Method: Follow Federal, State, local regulations. If uncontaminated reuse or send to recycler.

Section VIII - Special Precaution Information

Respiratory Protection (Specify Type): Above 30 ug/Hr half mask, Above 2.5 mg/Hr full face, Above 50 mg/Hr self sustaining respiratory apparatus.

Vermin: Local Exhaust

Dilution: keep concentration below 30 ug/Hr over this

Special HFA Filters: Other

Practices Governed: Yes

Eye Protection: always

Other Protective Equipment: As necessary to limit exposure to lead particles

Section IX - Special Precautions

Precautions to be Taken in Handling and Storing: Avoid getting wet

Other Precautions: Always avoid lead fumes (above 1500° F.)

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LTV Steel 0552Y Material Safety/Health Data Sheet DATE: December 20, 1984

MANUFACTURER'S NAME & ADDRESS: LTV Steel Company P.O. Box 8778 Cleveland, Ohio 44101

NAME & TITLE OF INDIVIDUAL SUPPLYING INFORMATION: T.M. Civic Manager Environmental Health

AREA CODE & PHONE NO.: (216) 822-5242

AREA CODE & LTV EMERGENCY PHONE NO.: (216) 822-5000

PRODUCT NAME/TRADE NAME: Electro-Galvanized Steel

CHEMICAL NAME & SYNONYMS: Example: Electro Zincbond

RECOMMENDED USE: NOTE: Ingredients and % wt. vary according to order specification

CAS#	% wt.	Permissible Exposure Limits	Units
Base Metal: Iron	1309-37-1	PEL as Oxide Fume	10 mg/H ³
Alloys:			
Carbon	7440-44-0	.08 max. None Listed	---
Manganese	7439-96-5	.25 - .40 PEL(c) as Manganese	5 mg/H ³
Phosphorus	7723-14-0	.04 max. PEL as Phosphorus (Yellow)	.1 mg/H ³
Sulfur	7704-34-9	.05 max. PEL as Sulfur Dioxide	13 mg/H ³
Copper (if appl.)	7440-50-8	.20 - .40 PEL as Copper	.2 mg/H ³
Coatings: Zinc	1314-13-2	.1 max. PEL as Zinc Oxide	5 mg/H ³

Optional: Electro PaintLok[®] - Phosphate treated, rinse with light chromate.
 Electro Zincbond[®] - Rinse with light chromate.
 Electro Flashcote[®] - Phosphate treated, final rinse with light chromate
 Oil - Surface coating of petroleum oil.
 Grease Edge - Edge coating of petroleum grease.
 Note: Use gloves to prevent skin irritation.

PHYSICAL DATA:

- BOILING POINT—NA
- VAPOR PRESSURE—NA
- VAPOR DENSITY—NA
- SOLUBILITY IN WATER—NA
- SPECIFIC GRAVITY—7
- % VOLATILE BY VOLUME—NA
- EVAPORATION RATE—NA
- AUTO IGNITION TEMP.—NA
- APPEARANCE & ODOR: gray-black & odorless
- PHYSICAL STATE—SOLID
- pH—NA

FIRST AID: In case of excessive exposure, remove to fresh air, administer oxygen, and seek physician's assistance.

NOTES TO PHYSICIAN:

RESPIRATORY PROTECTION:

- RESPIRATORY PROTECTION
- PROTECTIVE CLOTHING
- GLOVES
- EYE PROTECTION
- VENTILATION REQUIREMENTS
- OTHER—AS PER WELDING REQUIREMENTS

LTV Steel 0511Y Material Safety/Health Data Sheet DATE: November 15, 1984

MANUFACTURER'S NAME & ADDRESS: LTV Steel Company P.O. Box 8778 Cleveland, Ohio 44101

NAME & TITLE OF INDIVIDUAL SUPPLYING INFORMATION: T.M. Civic Manager Environmental Health

AREA CODE & PHONE NO.: (216) 822-5242

AREA CODE & LTV EMERGENCY PHONE NO.: (216) 822-5000

PRODUCT NAME/TRADE NAME: Hot/Cold Rolled Carbon Steel - Bar & Wire

CHEMICAL NAME & SYNONYMS: Example AISI Grade 1040

RECOMMENDED USE: NOTE: Ingredients and % wt. vary according to order specification

CAS#	% wt.	Permissible Exposure Limits	Units
Base Metal: Iron	1309-37-1	97 - 99 PEL as Iron Oxide Fume	10 mg/H ³
Alloys:			
Manganese	7439-96-5	.25 - 1.65 PEL(c) as Manganese	5 mg/H ³
Phosphorus	7723-14-0	.04 max. PEL as Phosphorus (Yellow)	.1 mg/H ³
Sulfur	7704-34-9	.001 - .35 PEL as Sulfur Dioxide	13 mg/H ³
Vanadium	7440-6-22	.01 - .25 PEL(c) as Vanadium Pentoxide	
		- Fume	.1 mg/H ³
		- Dust	.5 mg/H ³

Coatings: Optional: Light surface coating of petroleum oil, phosphate or dry lube (borax or lime).
 Note: Use gloves when handling to prevent skin irritation.

PHYSICAL DATA:

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- SOLUBILITY IN WATER—NA
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- % VOLATILE BY VOLUME—NA
- EVAPORATION RATE—NA
- AUTO IGNITION TEMP.—NA
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