



SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: Zinc Dross

CAS Number: 69011-50-3

Synonyms: Galvanizing Dross

Use/Description: Dross, skimmings, flakes or spillings from zinc coating operations

Company Identification:	24 Hour Contact – CHEMTREC 1-800-424-9300
Nucor Steel Arkansas 7301 E. County Road 142 Blytheville, AR 72315	Safety Officer [8:00 am – 5:00 pm]: 1-(870) 762-2100
Nucor Steel Berkeley 1455 Hagan Avenue Huger, SC 29450	Safety Officer [8:00 am – 5:00 pm]: 1-(843) 336-6000
Nucor Steel Decatur 4301 Iverson Boulevard Trinity, AL 35673	Safety Officer [8:00 am – 5:00 pm]: 1-(256) 301-3500
Nucor Steel Indiana 4537 South Nucor Road Crawfordsville, IN 47933	Safety Officer [8:00 am – 5:00 pm]: 1-(765) 364-1323
Nucor Steel Gallatin 4831 U.S. Hwy 42 West Ghent, KY 41045	Safety Officer [8:00 am – 5:00 pm]: 1 (859) 567-3100
Nucor Tubular Products Louisville 7301 Logistic Drive Louisville, Kentucky 40258	Safety Officer [8:00 am – 5:00 pm]: 1-(502) 995 - 5900
Nucor Tubular Products Cedar Springs 633 Georgia Tubing Road Cedar Springs, Georgia 39832	Safety Officer [8:00 am – 5:00 pm]: 1-(229) 372 - 4501

For general product information, contact facility as listed above. For emergencies, use the 24 Hour Contact.

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PRODUCT AS SOLD BY NUCOR IS **NOT HAZARDOUS** PER OSHA GHS 29 CFR 1910.1200.

Potential Health Effects

Eye Contact

Dusts or particulates may cause mechanical irritation including pain, tearing, and redness. Scratching of the cornea can occur if eye is rubbed. Fumes may be irritating. Contact with the heated material may cause thermal burns.

Skin Contact

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Dusts or particulates may cause mechanical irritation due to abrasion. Some components in this product are capable of causing an allergic reaction, possibly resulting in burning, itching and skin eruptions. Contact with heated material may cause thermal burns.

Inhalation

Dusts may cause irritation of the nose, throat, and lungs. Excessive inhalation of metallic fumes and dusts may result in metal fume fever, an influenza-like illness.

Ingestion

Not expected to be acutely toxic via ingestion based on the physical and chemical properties of the product. Swallowing of excessive amounts of the dust may cause irritation, nausea, and diarrhea.

Potential Fire and Explosion Hazards

Solid zinc in compact form does not present fire or explosion hazards unless heated > 500 degrees C. Zinc dust or powder, however, is flammable when exposed to heat or flame and may even spontaneously ignite in air.

Chronic or Special Toxic Effects

No data available. EPA has listed Zinc as Group D (not classifiable as to human carcinogenicity) based on no human or animal data. Zinc has not been listed by ACGIH, IARC, NIOSH, or NTP.

Target Organs

Overexposure to specific components of this product that are generated in dusts or fumes may cause adverse effects to the following organs or systems: lung, kidney.

Medical Conditions Aggravated by Exposure

No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS No.	% Weight	Exposure Limits				
			ACGIH TLV (mg/m ³)		OSHA PEL (mg/m ³)		
Base Metal							
Zinc Oxide (ZnO)	1314-13-2	Balance	10	Oxide Dust	5	Oxide Fume	
Zinc (Zn)	7440-66-6		5	Oxide Fume	10	Oxide Dust	
			10	Oxide Fume (STEL)			
Aluminum (Al)	7429-90-5	<4.29	10	Dust	15	Dust	
			5	Fume	5	Respirable fraction	
Iron (Fe)	7439-89-6	<4.72	5	Oxide Dust/Fume	10	Oxide Dust/Fume	

4. FIRST AID MEASURES

Eye Contact - In case of overexposure to dusts or fumes, immediately flush eyes with plenty of water for at least 15 minutes occasionally lifting the eye lids. Get medical attention if irritation persists. Thermal burns should be treated as medical emergencies.

Skin Contact - In case of overexposure to dusts or particulates, wash with soap and plenty of water. Get medical attention if irritation develops or persists. If thermal burn occurs, flush area with cold water and get immediate medical attention.

Inhalation - In case of overexposure to dusts or fumes, remove to fresh air. Get immediate medical attention if symptoms described in this Safety Data Sheet (SDS) develop.

Ingestion - Not considered an ingestion hazard. However, if excessive amounts of dust or particulates are swallowed, treat symptomatically and supportively. Get medical attention.

Notes to Physician - Inhalation of metal fume or metal oxides may produce an acute febrile state, with cough, chills, weakness, and general malaise, nausea, vomiting, muscle cramps, and remarkable leukocytosis. Treatment is symptomatic, and condition is self limited in 24-48 hours. Chronic exposure to dusts may result in pneumoconiosis of mixed type.

5. FIRE FIGHTING MEASURES

Flash Point (Method) – No data available.

Flammable Limits (% volume in air) - No data available.

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Auto ignition Temperature - 460°C (860°F) as dust/powder

Extinguishing Media – For small fires, use dry chemical powder. Large fires: Use water spray or fog.

Special Fire Fighting Procedures - Do not use water on molten metal. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition, or explosion. Firefighters should not enter confined spaces without wearing NIOSH/MSHA approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

Unusual Fire or Explosion Hazards – Contact with acids may result in evolution of hydrogen with sufficient heat of reaction to ignite the hydrogen gas. Reactive with water and may produce flammable gases. Dust/powder may ignite on contact with water or moist air. Any non-oxidized fine metal particles/ dust generated by grinding, sawing, abrasive blasting, or individual customer processes may produce materials that the customer should test for combustibility and other hazards in accordance with applicable regulations. High concentrations of combustible metallic fines in the air may present an explosion hazard.

6. ACCIDENTAL RELEASE MEASURES

Precautions if Material is Spilled or Released - Emergency response is unlikely unless in the form of combustible dust. Avoid inhalation, eye, or skin contact of dusts by using appropriate precautions outlined in this SDS (see section 8). Fine turnings and small chips should be swept or vacuumed and placed into appropriate disposable containers. Keep fine dust or powder away from sources of ignition. Scrap should be reclaimed for recycling. Prevent materials from entering drains, sewers, or waterways. Specific standards and regulations may be applicable to materials generated by individual customer processes. As appropriate, these standards and regulations should be consulted for applicability.

7. HANDLING AND STORAGE

Storage Temperatures - Stable under normal temperatures and pressures.

Precautions to be Taken in Handling and Storing –Follow good housekeeping practices to minimize dust. Wear adequate protective clothing (see Section 8). Store in a cool, dry area away from incompatible materials (see Section 10).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Operations with potential for generating high concentrations of airborne particulates or fumes should be evaluated and controlled as necessary.

Eye Protection - Use safety glasses. Dust resistant safety goggles are recommended under circumstances where particles could cause mechanical injury such as grinding or cutting. Face shield should be used when welding or cutting.

Skin - Appropriate protective gloves should be worn as necessary. Good personal hygiene practices should be followed including cleansing exposed skin several times daily with soap and water, and laundering or dry cleaning soiled work clothing.

Respiratory Protection Not required under normal conditions of use. NIOSH/MSHA approved dust/fume/mist respirator should be used if occupational exposure limits are exceeded. See Section 3 for component material information exposure limits. If such concentrations are sufficiently high that this respirator is inadequate, or high enough to cause oxygen deficiency, use a positive pressure self-contained breathing apparatus (SCBA). Follow all applicable respirator use, fitting, and training standards and regulations.

Ventilation - Provide general and/or local exhaust ventilation to control airborne levels of dust or fumes below exposure limits.

Exposure Guidelines - See Section 3 for component occupational exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor – Silver gray metallic mass; odorless

Boiling Point – No data available

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Melting Point - Approximately 787 °F (419 °C)

pH - No data available

Specific Gravity (at 15.6°C) – Approx. 7

Density (at 15.6 °C) - No data available

Vapor Pressure - No data available

Vapor Density (air = 1) - No data available

% Volatile, by Volume - Not applicable

Solubility in Water - Insoluble.

Evaporation Rate (Butyl Acetate = 1) - No data available

Other Physical and Chemical Data - None

10. STABILITY AND REACTIVITY

Stability - Stable

Conditions to Avoid – Moisture

Hazardous Polymerization - Will not occur.

Incompatibility (Materials to Avoid) - Strong acids, Oxidizing agents

Hazardous Decomposition Products – Thermal oxidative decomposition can produce fumes containing oxides of zinc as well as other elements.

11. TOXICOLOGICAL INFORMATION

Acute toxicity: not classified.

Zinc: rat oral LD₅₀ is > 2000 mg/kg.

Zinc oxide: rat oral LD₅₀ is > 5000 mg/kg.

Skin corrosion/irritation: not classified

Eye corrosion/irritation: not classified

Respiratory or skin sensitization: not classified

Germ cell mutagenicity: not classified

Carcinogenicity: not classified

Reproductive toxicity: not classified

Target organ toxicity – single exposure: not classified

Target organ toxicity – repeat exposure: not classified

Aspiration hazard: not classified

12. ECOLOGICAL INFORMATION

Aquatic Ecotoxicological Data – Zinc is very toxic to aquatic life with long lasting effects.

Environmental Fate Data - No specific information available on this product.

13. DISPOSAL CONSIDERATIONS

Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts. Dispose in accordance with federal, state, and local health and environmental regulations. Prevent materials from entering drains, sewers, or waterways.

14. TRANSPORT INFORMATION

DOT Shipping Information: Zinc Dross, flakes, skimmings, or spillage must be transported in accordance with applicable US Department of Transportation Regulations.

15. REGULATORY INFORMATION

This product is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. However, dusts and fumes from this product may be combustible or hazardous and require protection to comply with applicable Federal, state and local laws and regulations.

California Proposition 65:

⚠ WARNING: This product can expose you to chemicals including antimony [oxide], chromium [hexavalent], cobalt, cadmium, lead, and nickel which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Massachusetts Substance List: Aluminum, Antimony, Cadmium, Chromium, Cobalt, Copper, Manganese, Lead, Nickel, Silver, Thallium, Tin, Zinc, Zinc oxide

Pennsylvania Hazardous Substance List: Aluminum, Antimony, Cadmium, Chromium, Cobalt, Copper, Manganese, Lead, Nickel, Silver, Thallium, Tin, Zinc

New Jersey Hazardous Substance List: Aluminum, Antimony, Cadmium, Chromium, Cobalt, Copper, Manganese, Lead, Nickel, Silver, Thallium, Tin, Zinc, Zinc oxide

Toxic Substances Control Act (TSCA)

Components of this product are listed on the TSCA Inventory.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

<u>Chemical Name</u>	<u>Reportable Quantity (in lb)</u>
Zinc	1,000

Superfund Amendments and Reauthorization Act of 1986 (SARA), Title III

SECTION 311/312 HAZARD CATEGORIES: None

This product contains the following EPCRA Section 313 chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right – To – Know Act of 1986 (40 CFR 372):

SECTION 313 REPORTABLE INGREDIENTS:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Reportable</u>
Aluminum	7429-90-5	Yes (fume or dust)– Greater than 1%
Lead	7439-92-1	Yes – No de minimis level (0.02 wt%)
Zinc	7440-66-6	Yes – Greater than 1%

Concentrations based on analytical data and process knowledge of typical products distributed by the facility.

16. OTHER INFORMATION

This SDS covers Nucor product as delivered from the Nucor facility, but does not include chemicals that may be applied by subsequent handlers and/or distributors of this product. This could include a variety of materials including oils, paints, galvanization, etc. that are not included in this SDS. Additionally, specialty orders may require application of coating material not listed in this SDS. SDSs for any Nucor-applied specialty coating will be provided separately. During welding, precautions should be taken for airborne contaminants that may originate from components of the welding rod. Arc or spark generated when welding or burning could be a source of ignition for combustible and/or flammable materials. The information in this SDS was obtained from sources which we believe are reliable; however, the information is provided without any representation or warranty, expressed or implied, regarding the accuracy or correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with the handling, storage, use, or disposal of this product.