SAFETY DATA SHEET

1. Identification

Identification

Product name: **ZINCNOVA(TM), 25 KG BOX / LI0064**

Additional identification

Chemical name: Mixture

Recommended use and restriction on use

Recommended use: None identified.

Restrictions on use: None identified.

Details of the supplier of the safety data sheet

Supplier

Company Name: THE LUBRIZOL CORPORATION

Address: 29400 LAKELAND BOULEVARD
WICKLIFFE, OH 44092-2298
US

Telephone: (440)943-1200

Emergency telephone number:

FOR TRANSPORT EMERGENCY CALL CHEMTREC 24-HOUR NUMBER (+1)703 527 3887 OR WITHIN USA 1 800 424 9300 (CCN13437)

2. Hazard(s) identification

Hazard Classification

Not classified

Label Elements:

Hazard Symbol: No symbol

Signal Word: No signal word.

Hazard Statement: Not applicable

Precautionary Statements: Not applicable

Other hazards which do not result in GHS classification: None identified.

3. Composition/information on ingredients

Chemical name	CAS number	Percent by Weight
Zinc oxide	1314-13-2	20 – 30%

4. First-aid measures

Ingestion: Treat symptomatically. Get medical attention.

Inhalation: Remove exposed person to fresh air if adverse effects are observed.

Skin Contact: Wash with soap and water. If skin irritation occurs, get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses.

Most important symptoms/effects, acute and delayed

Symptoms: See section 11.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General Fire Hazards: Avoid hose stream or any method which will create dust clouds.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use water spray, dry chemical or foam for extinction. CO2 may be ineffective on large fires.

Unsuitable extinguishing media: Not determined.

Specific hazards arising from the chemical: See section 10 for additional information.

Special protective equipment and precautions for fire-fighters

Special fire-fighting procedures: This product has not been evaluated for dust explosion potential. Powdered material may form explosive dust-air mixtures. As a precaution, implement standard safety measures for handling finely divided organic powders. This product has a high volume resistivity and a propensity to build up static electricity which may be discharged as a spark. A spark can be an ignition source for solvent vapor/air mixtures. If you add this product to a solvent, ensure appropriate safe handling practices such as provision for inerting flammable vapors. Take care to minimze airborne dust.

Special protective equipment for fire-fighters: Recommend wearing self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up:	Pick up free solid for recycle and/or disposal. Sweep up and place in a clearly labeled container for chemical waste. Avoid dust formation. Use wet sweeping compound or water to avoid raising a dust. Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container.

7. Handling and storage

Precautions for safe handling:	Observe good industrial hygiene practices. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid environmental contamination. Avoid conditions which create dust. Avoid breathing dust. Avoid contact with eyes and prolonged or repeated contact with skin. Keep away from heat, sparks and open flame. Take precautionary measures against static discharges when there is a risk of dust explosion. Practice good housekeeping.
Maximum Handling Temperature:	Not determined.
Conditions for safe storage, including any incompatibilities:	Store away from incompatible materials. See section 10 for incompatible materials. Avoid heat, sparks, open flames and other ignition sources. Store in containers made of same material as original container. Store in a dry, well-ventilated place. Keep containers closed when not in use.
Maximum Storage Temperature:	Not determined.

8. Exposure controls/personal protection

Control Parameters:

Occupational Exposure Limits

Chemical name	Type	Exposure Limit Values	Source
Zinc oxide - Respirable fraction.	TWA	2 mg/m3	US. ACGIH Threshold Limit Values, as amended (02 2012)
Zinc oxide - Respirable fraction.	STEL	10 mg/m3	US. ACGIH Threshold Limit Values, as amended (02 2012)
Zinc oxide - Dust.	REL	5 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
Zinc oxide - Dust.	Ceil_Time	15 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
Zinc oxide	IDLH	500 mg/m3	US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended (10 2017)
Zinc oxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Zinc oxide - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Zinc oxide - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Zinc oxide - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Zinc oxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Zinc oxide - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)

Appropriate engineering controls: To prevent dust explosions employ bonding and grounding for operations capable of generating static electricity. Minimize dust generation and accumulation. Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required.

Eye/face protection: Use tight fitting goggles if dust is generated. Wear approved chemical safety glasses or goggles where eye exposure is reasonably probable.

Skin Protection

Hand Protection: Suitable gloves can be recommended by the glove supplier. Use good industrial hygiene practices to avoid skin contact. If contact with the material may occur wear chemically protective gloves.

Other:	Anti-static boots. Anti-static suit. Long sleeve shirt is recommended.
Respiratory Protection:	Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator. Under normal use conditions, respirator is not usually required. Use appropriate respiratory protection if exposure to dust particles, mist or vapors is likely.
Hygiene measures:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	
Physical state:	solid
Form:	Powder
Color:	White to off-white
Odor:	Characteristic
Odor threshold:	No data available.
pH:	Not applicable based on solubility in water.
Melting Point:	No data available.
Boiling Point:	No data available.
Flash Point:	Not applicable.
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	1 - 1.1
Solubility(ies)	
Solubility in water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.

Possibility of hazardous reactions:	Will not occur.
Conditions to avoid:	Static discharge.
Incompatible Materials:	Contact with acids. Contact with alkalis. Strong oxidizing agents.
Hazardous Decomposition Products:	Thermal decomposition or combustion may generate smoke, carbon monoxide, carbon dioxide, and other products of incomplete combustion. Thermal decompositon may generate zinc oxides and other zinc containing compounds.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Ingestion:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Information on toxicological effects

Acute toxicity

Oral

Product:	Not classified for acute toxicity based on available data. Ingestion can cause central nervous system effects such as headache, dizziness, drowsiness, and generalized weakness.

Dermal

Product:	Not classified for acute toxicity based on available data.

Inhalation

Zinc oxide	Dust and mist: LC 50 (Rat, , 4 h): > 5.7 mg/l (Literature) Not classified Dust and mist Inhalation of high concentrations of metal fumes may cause metal fume fever. Acute signs of metal fume fever include chills, fever, muscle aches, headaches, dry throat.

Skin Corrosion/Irritation:

Product:	Remarks: Not classified as a primary skin irritant.

Serious Eye Damage/Eye Irritation:

Product:	Remarks: Not classified as a primary eye irritant.

Respiratory sensitization:

No data available

Skin sensitization:

Zinc oxide	Classification: Not a skin sensitizer. (Literature)

Specific Target Organ Toxicity - Single Exposure:
No data available

Aspiration Hazard:
No data available

Chronic Effects

Carcinogenicity:
No data available

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:
No carcinogenic components identified

Germ Cell Mutagenicity:

Zinc oxide	In vitro mutagenicity tests have been negative.

Reproductive toxicity:
No data available

Specific Target Organ Toxicity - Repeated Exposure:
No data available

12. Ecological information

Ecotoxicity

Fish

Zinc oxide	LC 50 (Rainbow Trout, 4 d): 0.14 mg/l LC 50 (Rainbow Trout, 4 d): 1.55 mg/l NOEC (Oncorhynchus mykiss, 30 d): 0.039 mg/l NOEC (Oncorhynchus mykiss, 30 d): 0.048 mg/l

Aquatic Invertebrates

Zinc oxide	EC 10 (Water Flea (Daphnia Magna), 2 d): 0.2 mg/l EC 50 (Water Flea (Daphnia Magna), 2 d): 1.1 mg/l

Toxicity to Aquatic Plants

Zinc oxide	NOEC (Green algae (selenastrum capricomutum), 3 d): 0.024 mg/l NOEC (Green algae (selenastrum capricomutum), 4 d): 0.01 mg/l NOEC (Green algae (selenastrum capricomutum), 4 d): 0.08 mg/l

Toxicity to soil dwelling organisms
No data available

Sediment Toxicity
No data available

Toxicity to Terrestrial Plants
No data available

Toxicity to Above-Ground Organisms
No data available

Toxicity to microorganisms
No data available

Persistence and Degradability
Biodegradation
Zinc oxide (The product solely consists of inorganic compounds which are not biodegradable.)

Bioaccumulative potential
Bioconcentration Factor (BCF)
No data available

Partition Coefficient n-octanol / water (log Kow)
No data available

Mobility:
No data available

Other adverse effects
Product: Very toxic to aquatic life with long lasting effects.

13. Disposal considerations

Disposal instructions: Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Dispose of packaging or containers in accordance with local, regional, national and international regulations. Empty container contains product residue which may exhibit hazards of product.

Contaminated Packaging: Container packaging may exhibit hazards.

14. Transport information

DOT

UN number or ID number:	UN 3077
UN Proper Shipping Name:	Environmentally hazardous substance, solid, n.o.s.(Zinc oxide)
Transport Hazard Class(es)	
Class:	9
Label(s):	9
Packing Group:	III
Environmental Hazards	Zinc oxide
Special precautions for user:	None established

IMDG

UN number or ID number:	UN 3077
UN Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Zinc oxide)
Transport Hazard Class(es)	
Class:	9
Label(s):	9
Packing Group:	III
Environmental Hazards	Zinc oxide
Special precautions for user:	None established

IATA

UN number or ID number:	UN 3077
Proper Shipping Name:	Environmentally hazardous substance, solid, n.o.s.(Zinc oxide)
Transport Hazard Class(es):	
Class:	9
Label(s):	9MI
Packing Group:	III
Environmental Hazards	Zinc oxide
Special precautions for user:	None established

Transport in bulk according to Annex II of MARPOL and the IBC Code

None known.

The DOT shipping information in this section is based on a bulk container. Please review the accompanying shipping papers for the correct shipping descriptions based the size of the package. Shipping descriptions may vary based on mode of transport, quantities, temperature of the material, package size, and/or origin and destination. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. During transportation, steps must be taken to prevent load shifting or materials falling, and all relating legal statutes should be obeyed. Review classification requirements before shipping materials at elevated temperatures.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

TSCA Section 5(a)2 Significant New Use Rule (SNURs) (40CFR 721, Subpt E)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4)

None present or none present in regulated quantities.

Superfund amendments and reauthorization act of 1986 (SARA)

SARA 311 Classifications

Not classified

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 313 (TRI Reporting)

Chemical Identity	CAS number	Reporting threshold for other uses	Reporting threshold for manufacturing and processing
Zinc oxide	1314-13-2	10000 lbs	25000 lbs

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

Inventory Status

Australia (AIIC)

May require notification before sale under Australian regulations.

Canada (DSL/NDSL)

May require notification before sale under Canadian regulations.

China (IECSC)

All components of this product are listed on the Inventory of Existing Chemical Substances in China.

European Union (REACh)

To obtain information on the REACH compliance status of this product, please e-mail REACH@SDSInquiries.com.

Great Britain (UK REACH)

To obtain information on the UK REACH compliance status of this product, please e-mail REACH@SDSInquiries.com.

Japan (ENCS)

May require notification in Japan.

Korea (ECL)

May require notification before sale in Korea.

New Zealand (NZIoC)

All components are in compliance with chemical notification requirements in New Zealand.

Philippines (PICCS)

May require notification before sale under Philippines Republic Act 6969.

Switzerland (SWISS)

May require notification before sale in Switzerland.

Taiwan (TCSCA)

All components of this product are listed on the Taiwan inventory.

Turkey (KKDIK)

To obtain information on the KKDIK compliance status of this product, please e-mail REACH@SDSInquiries.com.

United States (TSCA)

All substances contained in this product are listed on the TSCA inventory or are exempt.

The information that was used to confirm the compliance status of this product may deviate from the chemical information shown in Section 3.

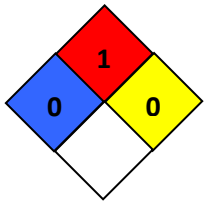
16.Other information, including date of preparation or last revision

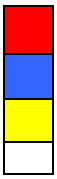
HMIS Hazard ID

Health	0
Flammability	1
Physical Hazards	0

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

NFPA Hazard ID





Flammability
Health
Reactivity
Special hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date: 09/25/2023

Version #: 2.1

Source of information: Internal company data and other publically available resources.

Further Information: Contact supplier (see Section 1)

Revision(s) are noted by the double bar in the margin and the light gray box.

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