



Material Safety Data Sheet

NFPA	HMIS	PPE	Symbol(s)						
	<table border="1"><tr><td>Health Hazard</td><td>2</td></tr><tr><td>Fire Hazard</td><td>1</td></tr><tr><td>Reactivity</td><td>0</td></tr></table>	Health Hazard	2	Fire Hazard	1	Reactivity	0		
Health Hazard	2								
Fire Hazard	1								
Reactivity	0								

Preparation Date 5-Aug-2010

Revision Date 5-Aug-2010

Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description: ZN50
MSDS #: 0070 032G
Recommended Use Recommended for tool joints, drill collars, and drilling and coring bits.

Synonyms

4B ZN50

Manufacturer

Bestolife Corporation
2777 Stemmons Freeway, Suite 1800
Dallas, Texas 75207
USA

E-mail: sales@bestolife.com

Internet: www.bestolife.com

Telephone Number

(214) 631-6070

Emergency Telephone Number 800-424-9300
703-527-3887

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance Metallic gray semisolid	Physical State Liquid, grease.	Odor Petroleum odor.
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Potential Health Effects

Principle Routes of Exposure

The two major means of metal absorption are inhalation and ingestion.

Acute Effects

Eyes

Contact with eyes may cause irritation.

Skin

Skin contact may cause irritation.

Inhalation

If the grease base has been removed, i.e., by volatile solvents, heat, etc., the remaining powders and metallics can pose an inhalation hazard resulting in both acute and chronic overexposure as well as lung irritation, lung injury, or other health effects.

Ingestion

Ingestion of the product may cause gastrointestinal irritation and upset.

Chronic Effects

If left untreated, large oral doses may cause weakness, loss of appetite, insomnia, hypertension, metallic taste in mouth, anemia, constipation, headache, muscle and joint pains, neuromuscular dysfunction, possible paralysis and encephalopathy. Prolonged and repeated contact with the product may cause a defatting of the skin, dermatitis, folliculitis and/or oil acne.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions Chronic forms of kidney, liver, and hematopoietic diseases; preexisting respiratory and cardiovascular disorders may be aggravated by ingestion or inhalation of large doses. Preexisting eye or skin disorders may be aggravated by prolonged contact with this product.

Potential Environmental Effects See Section 12 for additional Ecological information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Petroleum distillates, hydrotreated heavy naphthenic	64742-52-5	30-50
Zinc	7440-66-6	45-55

Other Non-Hazardous Ingredients
 Contains: <3% DMSO-extractable components

4. FIRST AID MEASURES

Eye Contact Flush with copious amounts of water. Get immediate medical attention.

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

Inhalation Remove from exposure. Get medical attention if experiencing cough, irritation or difficult breathing.

Ingestion Get immediate medical attention. DO NOT INDUCE VOMITING! Possible aspiration hazard.

Notes to Physician The hydrocarbons contained in this product are mild irritants of the eyes and mucous membranes, central nervous system depressants, and primary chemical irritants of the skin. Prolonged or repeated skin contact, especially with poor personal hygiene, may cause skin disorders. For combustion product effects see Hazardous Combustion Products in Section 5. Fire Fighting Measures.

Protection of First-aiders Avoid contact with skin, eyes and clothing.

5. FIRE-FIGHTING MEASURES

Flammable Properties No information available.

Suitable Extinguishing Media Dry chemical, water fog, foam, or carbon dioxide may be suitable for extinguishing fires involving this product.

Uniform Fire Code Combustible Liquid: III-B

Unsuitable extinguishing media. No information available.

Explosion Limits

Hazardous Combustion Products Combustion products are highly dependent on the combustion conditions. CO, CO₂, CaO, oxygenates, and unidentified organic compounds may be formed during combustion., High temperatures may produce metal fume, vapor, and/or dust, Combustion products may cause effects of overexposure as noted in Section 2. Hazards Identification., They may also cause vomiting; uncoordinated body movements; stupor; headache; dizziness; coma; convulsion; weakness; drowsiness; tachypnea; nausea; paresthesias; dyspnea; asphyxiation; mild to severe eye, skin or respiratory tract irritation; metal fume fever; cough; pneumonia; pneumonconiosis; ulceration or perforation of the nasal septum and/or lung damage, Other unidentified health effects may occur.

Impact Sensitivity Not applicable.

Sensitivity to static discharge Not applicable.

Specific Hazards Arising from the Chemical No information available.

Protective Equipment and Precautions for Firefighters Use full-body protection and full-face, self-contained breathing apparatus operated in a positive-pressure mode. Use water spray (fog) to cool containers and disperse vapors.

NFPA Health 2 Flammability 1 Instability 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Avoid contact with the skin and the eyes.

Environmental Precautions	Keep petroleum products out of streams and waterways. Assure conformity with applicable government regulations.
Methods for containment	No information available
Methods for cleaning up	Clean area with an appropriate cleanser.
Other Information	Not applicable

7. HANDLING AND STORAGE

Handling	The two major means of metal absorption are inhalation and ingestion. After use, always wash hands before smoking, eating, or drinking. Smoking, eating, and drinking should be confined to uncontaminated areas Work clothes and equipment should remain in designated areas. Before reuse, launder contaminated clothing separate from personal clothing Avoid skin contact and use personal protection when handling product, waste product, or contaminated equipment Wash with soap and water after use Prolonged and repeated contact can cause defatting action of the skin and may cause disorders such as dermatitis, folliculitis, and oil acne This product is intended for industrial use only KEEP OUT OF REACH OF CHILDREN This product may separate. Stir well before use. The flash point of this product depends on the degree of separation
Storage	Store in a cool, dry area where accidental contact with acids is not possible Keep storage containers closed when not in use Do not store or handle near high temperature or open flame

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

NIOSH IDLH: Not applicable.

Engineering Measures	No special ventilation requirements under conditions of normal use (air concentrations below PEL/TLV levels.).
Personal Protective Equipment	
Eye/Face Protection	Vented goggles or safety glasses with side shields should be worn when using this product.
Skin Protection	Oil-resistant gloves should be worn when handling this product. Clothing appropriate for an industrial environment should be worn.
Respiratory Protection	No respiratory equipment is required for normal use. Dry residue may be created by high downhole temperatures; if the residue is removed without a solvent or other means of controlling dust, workers should wear air-purifying respirators.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Metallic gray semisolid	Odor	Petroleum odor
Physical State	Liquid, grease	Flash Point	252 °C / 485 °F
Boiling Point/Range	288 °C / 550 °F	Dropping Point	160-177 °C / 320-350 °F
Vapour Density	>1	Vapor Pressure	No data available
Specific Gravity	1.7		

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Incompatible Products	Strong oxidizers or acids combined with this product may liberate hydrogen gas.
Hazardous Decomposition Products	Under normal temperatures this product will not decompose.
Possibility of Hazardous Reactions	None under normal use

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Petroleum distillates, hydrotreated heavy naphthenic	5000 mg/kg (Rat)	2000 mg/kg (Rabbit)	2.18 mg/L (Rat) 4 h

Irritation	Ingestion of the product may cause gastrointestinal irritation and upset
Chronic Toxicity	

Component	ACGIH	IARC	NTP	OSHA	Mexico
Petroleum distillates, hydrotreated heavy naphthenic		Supplement 7 [1987], Monograph 33 [1984]			

12. ECOLOGICAL INFORMATION

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Petroleum distillates, hydrotreated heavy naphthenic		LC50> 5000 mg/L Pimephales promelas 96 h		EC50 > 1000 mg/L 48 h
Zinc	EC50 = 30 µg/L 96 h	LC50= 6.4 mg/L Pimephales promelas 96 h		EC50 = 5 µg/L 72 h

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Dispose of in accordance with local, state, and federal regulations. Empty containers are exempt from RCRA Subtitle C if they contain no more than 2.5 cm of their original contents in the bottom of the container or less than 3% of the original net weight (less than 0.3% by weight for containers over 110 gallons), or if the residue is analyzed and demonstrated to be nonhazardous.

Contaminated Packaging

"Empty" containers retain residue and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY AND/OR DEATH. "Empty" containers should be completely drained and properly sealed. Recycle or discard plastic liner, pail or drum in accordance with local, state, and federal regulations. "Empty" drums may be sent to a drum reconditioner.

14. TRANSPORT INFORMATION

DOT	Not Regulated
TDG	Not Regulated
IATA	Not Regulated
IMDG/IMO	Not Regulated

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	NDSL	EINECS/EL INCS	ENCS	CHINA	KECL	PICCS	AICS
Petroleum distillates, hydrotreated heavy naphthenic	Present	X		265-155-0		X	KE-12543	X	X
Zinc	Present	X		231-175-3		X	KE-35518	X	X

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Component	SARA 313 - Threshold Values
Zinc	1.0

SARA 311/312 Hazardous Categorization

Chronic Health Hazard	Yes
Acute Health Hazard	Yes

Fire Hazard No
 Sudden Release of Pressure Hazard No
 Reactive Hazard No

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zinc		X	X	

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
Zinc	1000	

U.S. State Regulations

California Proposition 65

This product may contain lead, which is known by the State of California to cause cancer, birth defects or other reproductive harm. Exposure to this product may be prevented by following the recommendations throughout this MSDS.

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Zinc	X	X	X		X

Other International Regulations

Mexico - Grade No information available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

D2B Toxic materials



16. OTHER INFORMATION

Preparation Date 5-Aug-2010
 Revision Date 5-Aug-2010
 Revision Number 1
 Revision Summary Additional data acquired on ingredients.

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and WE MAKE NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, CONCERNING THE ACCURACY OR COMPLETENESS OF THE INFORMATION HEREIN. Accordingly, we will not be responsible for damages resulting from use or reliance upon information contained herein regardless of whether it is claimed that the information is inaccurate, incomplete, or otherwise misleading. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS