



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
US - OSHA Hazard Communication Standard (29 CFR 1910.1200)

Issuing Date 27-Jul-2022

Revision Date 27-Jul-2022

Revision Number 1

1. Identification

Product identifier

Product Name LF-AS 328 Boeing General Purpose Anti-Seize Compound

Other means of identification

Product Code(s) 11-01, 11-02, 11-03, 11-04

UN/ID no UN3077

Synonyms Qualified to BMS3-28A

Recommended use of the chemical and restrictions on use

Recommended use Anti-seize

Restrictions on use None known

Details of the supplier of the safety data sheet

Manufacturer Address

Armite Laboratories Inc. dba Armite Lubricants
1218 Commerce Court Suite B
Lafayette CO 80026 USA
720-262-5480

E-mail sales@armite.com

Emergency telephone number

24 Hour Emergency Phone Number 888-255-3924

Emergency telephone 888-255-3924

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2A

Hazards not otherwise classified (HNOC)

Not applicable.

Label elements

Warning

Hazard statements

Harmful if swallowed.
Causes serious eye irritation.

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear eye protection/ face protection.

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
Rinse mouth.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Other information

May be harmful in contact with skin. Causes mild skin irritation. Very toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

Unknown acute toxicity

48.5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

3. Composition/information on ingredients

Substance

Not applicable.

Mixture**Synonyms**

Qualified to BMS3-28A

Chemical name	CAS No	Weight-%	Trade secret
Zinc	7440-66-6	35-45	*
Petrolatum	8009-03-8	25-35	*
Molybdenum disulphide	1317-33-5	10-20	*
Hydraulic oil	Trade secret	5-10	*
Asphalt	8052-42-4	5-10	*
Zinc oxide	1314-13-2	2-6	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Skin contact	Wash skin with soap and water.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms	May cause redness and tearing of the eyes. Burning sensation. Prolonged contact may cause redness and irritation.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.
Specific hazards arising from the chemical	No information available.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.
Other information	Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

8. Exposure controls/personal protection

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Molybdenum disulphide 1317-33-5	TWA: 10 mg/m ³ Mo inhalable particulate matter TWA: 3 mg/m ³ Mo respirable particulate matter	TWA: 15 mg/m ³ total dust (vacated) TWA: 10 mg/m ³ Mo	IDLH: 5000 mg/m ³ Mo
Asphalt 8052-42-4	TWA: 0.5 mg/m ³ benzene-soluble aerosol fume, inhalable particulate matter	-	Ceiling: 5 mg/m ³ fume 15 min
Zinc oxide 1314-13-2	STEL: 10 mg/m ³ respirable particulate matter TWA: 2 mg/m ³ respirable particulate matter	TWA: 5 mg/m ³ fume TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 5 mg/m ³ fume (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction (vacated) STEL: 10 mg/m ³ fume	IDLH: 500 mg/m ³ Ceiling: 15 mg/m ³ dust TWA: 5 mg/m ³ dust and fume STEL: 10 mg/m ³ fume

Biological occupational exposure limits

Chemical name	ACGIH
Asphalt 8052-42-4	2.5 µg/L - urine (1-Hydroxypyrene with hydrolysis) - end of shift at end of workweek - urine (3-Hydroxybenzo(a)pyrene with hydrolysis) - end of shift at end of workweek

Appropriate engineering controls

Engineering controls Showers
Eyewash stations

Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Hand protection	Wear suitable gloves.
Skin and body protection	Wear suitable protective clothing.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Dark Gray Paste
Physical state	Solid
Color	Dark Gray
Odor	Mild Petroleum
Odor threshold	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		No data available
Melting point / freezing point		No data available
Initial boiling point and boiling range		No data available
Flash point		No data available
Evaporation rate		No data available
Flammability		No data available
Flammability Limit in Air		
Upper flammability or explosive limits		No data available
Lower flammability or explosive limits		No data available
Vapor pressure		No data available
Vapor density		No data available
Relative density		No data available
Water solubility	Insoluble in water	No data available
Solubility(ies)		No data available
Partition coefficient		No data available
Autoignition temperature		No data available
Decomposition temperature		No data available
Kinematic viscosity		No data available
Dynamic viscosity		No data available

Other information

Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available
VOC Content (%)	0
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity	None under normal use conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Excessive heat.
Incompatible materials	Strong organic acids.
Hazardous decomposition products	Metal oxides.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
Skin contact	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation. Causes mild skin irritation. May be harmful in contact with skin.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	May cause redness and tearing of the eyes. Prolonged contact may cause redness and irritation.
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Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document:

ATEmix (oral)	919.60 mg/kg
ATEmix (dermal)	3,516.10 mg/kg

Unknown acute toxicity

48.5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Zinc 7440-66-6	= 630 mg/kg (Rat)	-	-

Petrolatum 8009-03-8	-	= 3600 mg/kg (Rabbit)	-
Molybdenum disulphide 1317-33-5	-	-	> 2820 mg/m ³ (Rat) 4 h
Hydraulic oil	> 15 g/kg (Rat)	> 5000 mg/kg (Rabbit)	-
Asphalt 8052-42-4	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 94.4 mg/m ³ (Rat) 4.5 h
Zinc oxide 1314-13-2	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5700 mg/m ³ (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

- Skin corrosion/irritation** Classification based on data available for ingredients. Causes mild skin irritation.
- Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.
- Respiratory or skin sensitization** No information available.
- Germ cell mutagenicity** No information available.

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Hydraulic oil	A2	Group 1	Known	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

- Reproductive toxicity** No information available.
- STOT - single exposure** No information available.
- STOT - repeated exposure** No information available.
- Target organ effects** Respiratory system. Eyes. Skin.
- Aspiration hazard** No information available.
- Other adverse effects** No information available.
- Interactive effects** No information available.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Zinc 7440-66-6	EC50: 0.11 - 0.271mg/L (96h,	LC50: 2.16 - 3.05mg/L (96h, Pimephales	-	EC50: 0.139 - 0.908mg/L (48h,

	Pseudokirchneriella subcapitata) EC50: 0.09 - 0.125mg/L (72h, Pseudokirchneriella subcapitata)	promelas) LC50: 0.211 - 0.269mg/L (96h, Pimephales promelas) LC50: =2.66mg/L (96h, Pimephales promelas) LC50: =30mg/L (96h, Cyprinus carpio) LC50: =0.45mg/L (96h, Cyprinus carpio) LC50: =7.8mg/L (96h, Cyprinus carpio) LC50: =3.5mg/L (96h, Lepomis macrochirus) LC50: =0.24mg/L (96h, Oncorhynchus mykiss) LC50: =0.59mg/L (96h, Oncorhynchus mykiss) LC50: =0.41mg/L (96h, Oncorhynchus mykiss)		Daphnia magna)
Hydraulic oil	-	LC50: >5000mg/L (96h, Oncorhynchus mykiss)	-	EC50: >1000mg/L (48h, Daphnia magna)
Zinc oxide 1314-13-2	-	LC50: =1.55mg/L (96h, Danio rerio)	-	-

Persistence and degradability No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Asphalt 8052-42-4	6

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Do not reuse empty containers.

California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

14. Transport information

DOT

UN/ID no UN3077
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport hazard class(es) 9
Packing group III
Reportable Quantity (RQ) (Zinc: RQ (kg)= 454.00) Zinc: RQ (lb)= 1000.00
Reportable quantity kg Zinc: RQ (kg)= 1287.00

(calculated)
 Reportable quantity lbs. Zinc: RQ (lb)= 2834.00
 (calculated)
 Special Provisions 146, 335, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33, 8
 DOT Marine Pollutant I
 Marine pollutant Zinc, Zinc oxide
 Description UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc, Zinc oxide), 9, III, Marine pollutant
 Emergency Response Guide Number 171

IATA

UN number or ID number UN3077
 UN proper shipping name Environmentally hazardous substance, solid, n.o.s.
 Transport hazard class(es) 9
 Packing group III
 IATA Technical Name Zinc, Zinc oxide
 Special Provisions A97, A158, A179, A197, A215
 Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Zinc, Zinc oxide), 9, III
 ERG Code 9L

IMDG

UN number or ID number UN3077
 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
 Transport hazard class(es) 9
 Packing group III
 EmS-No F-A, S-F
 Marine pollutant P
 Marine pollutant Zinc, Zinc oxide
 Special Provisions 274, 335, 966, 967, 969
 Description UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc, Zinc oxide), 9, III, Marine pollutant

15. Regulatory information

International Inventories

Contact supplier for inventory compliance status

US 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.

Chemical name	SARA 313 - Threshold Values %
Zinc - 7440-66-6	1.0
Asphalt - 8052-42-4	0.1
Zinc oxide - 1314-13-2	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21

and 40 CFR 122.42).

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zinc 7440-66-6	-	X	X	-
Zinc oxide 1314-13-2	-	X	-	-

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Reportable Quantity (RQ)
Zinc 7440-66-6	1000 lb	-	RQ 454 kg final RQ RQ 1000 lb final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Zinc 7440-66-6	X	X	X
Molybdenum disulphide 1317-33-5	-	X	-
Asphalt 8052-42-4	X	X	X
Zinc oxide 1314-13-2	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA	Health hazards 2	Flammability 0	Instability 0	Special hazards -
HMIS	Health hazards 2	Flammability 0	Physical hazards 0	Personal protection X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS

- Agency for Toxic Substances and Disease Registry (ATSDR)
- U.S. Environmental Protection Agency ChemView Database
- European Food Safety Authority (EFSA)
- EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet