

AFL HI-TUC

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.
Issue date: 7/22/2022 Revision date: 7/22/2022 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : AFL HI-TUC

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Corrosion inhibitor
Restrictions on use : Industrial use

1.3. Supplier

Supplier
CONTINENTAL PRODUCTS, INC.
#6 Midwest Drive, P.O. Box 338
Pacific, MO 63069 - USA
T 636-257-4449
kdb@contprod.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin Sens. 1	May cause an allergic skin reaction
Carc. 2	Suspected of causing cancer
STOT RE 1	Causes damage to organs through prolonged or repeated exposure

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : May cause an allergic skin reaction
Suspected of causing cancer
Causes damage to organs through prolonged or repeated exposure

Precautionary statements (GHS US) : Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
If exposed or concerned: Get medical advice/attention.
Get medical advice/attention if you feel unwell.

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If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable.

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Nickel	CAS-No.: 7440-02-0	5 - 10
Aluminum	CAS-No.: 7429-90-5	5 - 10
Zinc oxide (ZnO)	CAS-No.: 1314-13-2	0.5 - 1.5

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Not a normal route of exposure. If symptoms develop, remove to fresh air. Get medical attention if condition worsens.

First-aid measures after skin contact : IF ON SKIN: Wash with plenty of Water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. This compound contains abrasive particles. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Not a normal route of exposure. May cause respiratory irritation.

Symptoms/effects after skin contact : May cause skin irritation. Symptoms may include redness, drying, and cracking of the skin. May cause an allergic skin reaction.

Symptoms/effects after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic symptoms : Suspected of causing cancer. Causes damage to organs through prolonged or repeated exposure.

4.3. Immediate medical attention and special treatment, if necessary

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Dry chemical. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use water jet.

5.2. Specific hazards arising from the chemical

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). Cool closed containers exposed to fire with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.
Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Spilled material may present a slipping hazard. Provide ventilation.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Do not swallow. Do not breathe dust, fume, gas, mist, spray, vapors. Handle and open container with care. When using do not eat, drink or smoke. Provide adequate ventilation.
Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing must not be allowed out of the workplace. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store locked up. Store in a dry, cool and well-ventilated place.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available	
Nickel (7440-02-0)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	1.5 mg/m ³ (inhalable particulate matter)
ACGIH chemical category	Not Suspected as a Human Carcinogen
USA - ACGIH - Biological Exposure Indices	
BEI (BLV)	5 µg/l Parameter: Nickel - Medium: urine - Sampling time: post-shift at end of workweek (background)
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	1 mg/m ³
Aluminum (7429-90-5)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	1 mg/m ³ (respirable particulate matter)
ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Zinc oxide (ZnO) (1314-13-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Zinc oxide
ACGIH OEL TWA	2 mg/m ³ (respirable particulate matter)
ACGIH OEL STEL	10 mg/m ³ (respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Metal fume fever
Regulatory reference	ACGIH 2021
USA - OSHA - Occupational Exposure Limits	
Local name	Zinc oxide
OSHA PEL (TWA) [1]	5 mg/m ³ (fume) 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

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8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear suitable gloves resistant to chemical penetration

Eye protection:

Safety glasses or goggles are recommended when using product.

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

None necessary under normal conditions of use. In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Paste / Thick grease
Color	: No data available
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

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10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Incompatible materials.

10.5. Incompatible materials

Oxidizing materials.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Nickel (7440-02-0)

LD50 oral rat	> 9000 mg/kg
LC50 inhalation rat	> 10.2 mg/l (Exposure time: 1 h)

Aluminum (7429-90-5)

LD50 oral rat	> 15900 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LC50 inhalation rat	> 0.888 mg/l air Animal: rat, Animal sex: male, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Remarks on results: other:

Zinc oxide (ZnO) (1314-13-2)

LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 inhalation rat	> 5700 mg/m ³ (Exposure time: 4 h)

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Suspected of causing cancer.

Nickel (7440-02-0)

IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
In OSHA Hazard Communication Carcinogen list	Yes

Reproductive toxicity : Not classified

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Aluminum (7429-90-5)	
NOAEL (animal/male, F0/P)	1000 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

STOT-single exposure : Not classified
STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

Nickel (7440-02-0)	
LOAEC (inhalation, rat, dust/mist/fume, 90 days)	0.004 mg/l air Animal: rat, Guideline: OECD Guideline 412 (Subacute Inhalation Toxicity: 28-Day Study)
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aluminum (7429-90-5)	
LOAEC (inhalation, rat, dust/mist/fume, 90 days)	0.05 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
NOAEL (subchronic, oral, animal/male, 90 days)	1034 mg/kg body weight Animal: dog, Animal sex: male, Guideline: OECD Guideline 409 (Repeated Dose 90-Day Oral Toxicity Study in Non-Rodents)
NOAEL (subchronic, oral, animal/female, 90 days)	1087 mg/kg body weight Animal: dog, Animal sex: female, Guideline: OECD Guideline 409 (Repeated Dose 90-Day Oral Toxicity Study in Non-Rodents)

Zinc oxide (ZnO) (1314-13-2)	
LOAEL (dermal, rat/rabbit, 90 days)	75 mg/kg body weight Animal: rat, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
NOAEL (oral, rat, 90 days)	31.52 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard : Not classified
Viscosity, kinematic : No data available
Symptoms/effects after inhalation : Not a normal route of exposure. May cause respiratory irritation.
Symptoms/effects after skin contact : May cause skin irritation. Symptoms may include redness, drying, and cracking of the skin. May cause an allergic skin reaction.
Symptoms/effects after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic symptoms : Suspected of causing cancer. Causes damage to organs through prolonged or repeated exposure.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.

Nickel (7440-02-0)	
LC50 - Fish [1]	> 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 - Crustacea [1]	> 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 - Crustacea [2]	1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

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Zinc oxide (ZnO) (1314-13-2)

LC50 - Fish [1]

1.55 mg/l (Exposure time: 96 h - Species: Danio rerio [static])

12.2. Persistence and degradability

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Persistence and degradability

Not established.

12.3. Bioaccumulative potential

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Bioaccumulative potential

Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

SECTION 14: Transport information

In accordance with DOT

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

Special transport precautions : Do not handle until all safety precautions have been read and understood.

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14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

15.2. International regulations

No additional information available

15.3. US State regulations

⚠ WARNING: This product can expose you to Nickel, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

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Other information : None.
Prepared by : Nexreg Compliance Inc.
www.Nexreg.com



Full text of H-phrases

Carc. 2	Carcinogenicity Category 2
Skin Sens. 1	Skin sensitization, Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1

Safety Data Sheet (SDS), USA

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