



1. Product and Company Identification

Trade Name:	Nickel Sulfide
Chemical Formula:	Ni ₃ S ₂
Recommended Use:	Scientific research and development
Manufacturer/Supplier:	XI'AN FUNCTION MATERIAL GROUP CO., LTD
Street:	No. 69, Gazelle Valley, High-Tech Zone
City:	XI'AN
State:	Shaanxi
Zip Code:	710077
Country:	China
Tel #:	+86-29-88993870/+86-13519132051

2. Hazards Identification

Signal Word: Danger



Hazard Statements:

- H317: May cause an allergic skin reaction
- H341: Suspected of causing genetic defects
- H350: May cause cancer
- H372: Causes damage to organs through prolonged or repeated exposure if inhaled
- H410: Very toxic to aquatic life with long lasting effects

Precautionary Statements:

- P202: Do not handle until all safety precautions have been read and understood
- P260: Do not breathe dust/fume/gas/mist/vapors/spray
- P264: Wash face, hands and any exposed skin thoroughly after handling
- P270: Do not eat, drink or smoke when using this product
- P272: Contaminated work clothing should not be allowed out of the workplace
- P273: Avoid release to the environment
- P280: Wear protective gloves/protective clothing/eye protection/face protection
- P281: Use personal protective equipment as required
- P302+P352: IF ON SKIN: Wash with soap and water
- P308+P313: IF exposed or concerned: Get medical advice/attention
- P333+P313: If skin irritation or a rash occurs: Get medical advice/attention
- P363: Wash contaminated clothing before reuse
- P391: Collect spillage
- P405: Store locked up
- P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):

Health:	3
Flammability:	0
Physical:	0

3. Composition

Chemical Family:	Inorganic compound
Additional Names:	Nickel Subsulfide, Trinickel Disulfide

Nickel Sulfide (Ni₃S₂)

Percentage:	100 wt%
CAS #:	12035-72-2
EC #:	234-829-6

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	N/A

Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Seek medical attention.
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Ingestion:	Rinse mouth with water. Never give anything by mouth to an unconscious person. Seek medical attention.
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Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing. Seek medical attention.
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Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.
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5. Firefighting Measures

Flammability:	Non-Flammable, except as powder
Extinguishing Media:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.
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6. Accidental Release Measures

If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
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Environmental Precautions:	Isolate runoff to prevent environmental pollution.
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7. Handling and Storage

Handling Conditions:	Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	1 mg/m ³ as Ni, long term-value
Threshold Limit Value:	0.1 mg/m ³ as Ni, long term-value
Special Equipment:	None
Respiratory Protection:	Use a recommended dust respirator or mask. Only use equipment tested and approved under appropriate government standards.
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Grey
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	N/A
Water Solubility:	0.00735 g/l at 20 °C - OECD Test Guideline 105 - slightly soluble
Boiling Point:	N/A
Melting Point:	797 °C
Flash Point:	N/A
Autoignition Temperature:	> 400 °C
Density:	5.87 g/cm ³
Molecular weight:	240.20 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Strong acids, Strong oxidizing agents
Incompatible Conditions:	N/A
Hazardous Decomposition Products:	Sulphur oxides, Nickel/Nickel oxides

11. Toxicological Information

Potential Health Effects:

Eyes:	May cause irritation
Skin:	May cause an allergic reaction
Ingestion:	May cause irritation
Inhalation:	May cause cancer
Chronic:	Causes damage to organs through prolonged or repeated exposure

Signs & Symptoms:

May cause Rash, Itching, Swelling, Trouble breathing, Tingling of hands and feet, Dizziness, Lightheadedness, Chest pain, Muscle pain or flushing

Aggravated Medical Conditions:

May cause cancer

Median Lethal Dose:

LD50 Oral - Rat - female - > 11,000 mg/kg
LC50 Inhalation - Rat - male and female - 4 h - 1.13785 mg/l

Carcinogen:

IARC: 1 - Group 1: Carcinogenic to humans
NTP-K: Known to be carcinogenic: reasonably anticipated to be a human carcinogen.
OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

12. Ecological Information

Aquatic Toxicity:

Very toxic to aquatic life with long lasting effects

Persistent Bioaccumulation Toxicity:

May persist

Very Persistent, Very Bioaccumulative:

N/A

Notes:

Do not allow material to contaminate the ground water system

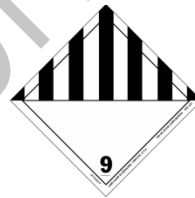
13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous:

Hazardous as powder only



Hazard Class:

9 Miscellaneous hazardous materials

Packing Group:

III

UN Number:

UN3077

Proper Shipping Name:

Environmentally hazardous substance, solid, n.o.s. (Nickel Sulfide)

15. Regulatory Information

Sec 302 Extremely Hazardous:

No

Sec 304 Reportable Quantities:

N/A

Sec 313 Toxic Chemicals:

Yes

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

Document Last Revised:

02/28/2020

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