

SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

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MATERIAL NAME: **NICKEL ETCHANT TFG**

REVISED: July 2023

CHEMICAL FAMILY: Acidic aqueous solution

Product Number: 060-0017000

SECTION 2. HEALTH HAZARD INFORMATION

Hazard Classifications

H290 Corrosive to Metals: Category 1
H302 Acute toxicity Oral : Category 4
H312 Acute Toxicity Dermal: Category 4
H332 Acute toxicity Inhalation : Category 4
H314 Skin corrosion / Skin irritation : Category 1C
H318 Serious eye damage / Eye irritation : Category 1

Pictograms or Hazard symbols



Signal word: **Danger**

May be corrosive to metals.
Harmful if swallowed, in contact with skin, or inhaled.
Causes severe skin burns and serious eye damage.

Precautionary Statements

P234 Keep only in original container.
P260 Do not breathe fume/gas/mist/vapors.
P261 Avoid breathing fumes/mist/vapors.
P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves, clothing, and eye and face protection.
P301 + P330 + P312 If swallowed, call a physician if you feel unwell. Rinse mouth
P303 + P361 + P353 If on skin (or hair): Remove immediately all contaminated clothing.
Rinse skin with water/shower.

P304 + P340 If inhaled, remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 If in eyes, rinse cautiously with water for several minutes.
P308 + P311 If exposed or concerned, call a physician.
P312 Call a physician if you feel unwell.
P314 Get medical advice/attention if you feel unwell.
P330 Rinse mouth.
P332 + P313 If skin irritation occurs, get medical advice/attention.
P337 + P313 If eye irritation persists, get medical advice/attention.
P363 Wash contaminated clothing before reuse
P390 Absorb spillage to prevent material damage.
P405 Store locked up.
P406 Store in corrosive resistant container.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3.COMPOSITION/INFORMATION ON INGREDIENTS

Material		Wt %	Toxicity
Thiourea	CAS# 62-56-6	< 1	
Sodium n-nitrobenzenesulfonate	CAS# 127-68-4	10-15	5 mg/m3 (PEL, TLV)
Sulfuric Acid	CAS# 7664-93-9	< 10	
Water	CAS# 7732-18-5	> 75	
Total		100	

SECTION 4. FIRST AID MEASURES

EFFECTS OF OVEREXPOSURE

FIRST AID:

Eye Contact: Corrosive to naked eye; in case of contact flush eyes well for 15 minutes, lifting the lower and upper eyelids occasionally. May cause blindness. Vapors may be irritating to eyes. Seek medical attention.

Skin Contact: Obtain medical attention: Corrosive to exposed skin. Flush skin well with water for 15 minutes, wash with soap and water. Remove affected clothing, get medical attention.

Inhalation: If mist or fumes are inhaled, remove to fresh air. If not breathing give artificial respiration. Seek medical attention. Effects may be delayed. May cause chemical burns to the respiratory tract.

Ingestion: May cause severe and permanent damage to the digestive tract. Causes gastrointestinal burns and perforation of the digestive tract. Get medical attention immediately.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point and Method: Non-flammable

Autoignition Temperature: NA

Flammability Limits In Air: NA

Extinguishing media: Use extinguishing media appropriate for the surrounding fire.

Special fire fighting procedures: Wear chemically retardant gear and NIOSH approved self-contained breathing apparatus. Thermal decomposition produces irritating and toxic fumes.

SECTION 6. ACCIDENTAL RELEASE MEASURES

SPILLS, LEAKS: Ventilate area of leak or spill. Clean up personnel should wear protective clothing and NIOSH approved respirator. Dike and cover the contaminated areas with absorbent, non-combustible material such as earth, sand, or vermiculite.

SECTION 7. HANDLING AND STORAGE

Wash thoroughly after handling. Remove contaminated clothing and wash before re-use. Do not breathe dust, mist, or vapor. Do not expose eyes, skin, or clothing. Keep container closed tightly. Use with adequate ventilation or respiratory protection. Do not store near combustibles or in direct sunlight. Store in a cool, dry, well-ventilated area away from incompatible substances. Separate from metals, alkali, and organics.

SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION

Respiratory protection: Wear NIOSH/MESA approved full or half face piece (with goggles) respiratory protective equipment to avoid exposure to vapors above 0.1ppm. A respiratory protection program complying with requirements of 29CFR 1910.134 is recommended.

Ventilation: Where adequate ventilation is not available, use NIOSH approved vapor respirator with dust, fume and mist filters. Local ventilation through fume hoods or laminar flow stations is also preferred. Keep fumes away from strong bases.

Protective gloves: Skin contact should be minimized through use of rubber gloves.

Other protective equipment: Steel tipped shoes/eye wash station/chemical safety chemical retardant clothing.

Eye protection: Safety goggles / face shield

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form :	Liquid
Appearance :	Yellow
Odor :	Acrid, sulfurous
pH :	< 1
Melting point:	Not available
Boiling point/Boiling range :	100 °C (water)
Flash point :	Non-flammable.
Ignition point :	Will not ignite.
Danger of explosion:	Product is not explosive
Decomposition temperature:	Not available
Vapor density (Air = 1) :	Not available
Volatiles, %:	> 75
Vapor pressure at 15° C, mm Hg:	Not available
Specific gravity :	1.04 g/cc
Solubility in / Miscibility:	Completely miscible in water
Evap. Rate (Water = 1):	< 1

SECTION 10. STABILITY AND REACTIVITY

Stability: Stable. Conditions to avoid: Excess heat, light, confined spaces.

Incompatible with: Strong bases and oxidizers, powdered metals, ammonia.

Hazardous decomposition products: Nitrogen oxides, nitrates, carbon dioxide, carbon monoxide, sulfates.

Hazardous polymerization will not occur.

Conditions to avoid: Excess heat, damp.

SECTION 11. TOXICOLOGICAL INFORMATION

Permissible exposure limit (PEL): 1 mg/m³

Toxicity LD₅₀ (oral rat) 37,850 mg/kg

Carcinogenic (thiourea): NTP: Yes LARC: Yes Z List: No OSHA: No

The International Agency for Research on Cancer has classified “strong inorganic mists containing sulfuric acid” as a known human carcinogen (IARC category 1). This classification applies only to sulfuric acid mists containing sulfuric acid and not to sulfuric acid solutions.

Thiourea is suspected of causing cancer. IARC: No ingredient of this product present at levels greater than or equal to 1% is identified as probable, possible or confirmed human carcinogen by IARC. NTP: RAHC - Reasonably anticipated to be a human carcinogen (Thiourea) OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.

SECTION 12. ECOLOGICAL INFORMATION

When released into the soil, this material may leach into groundwater. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition. When released into the air, this material may be removed from the atmosphere to a moderate extent by dry deposition.

Environmental Toxicity (sulfuric acid):

LC₅₀ flounder 100 to 330 mg/l/48 hour aerated water/conditions of bioassay not specified.

LC₅₀ shrimp 80 to 90 mg/l/48 hours aerated water/conditions of bioassay not specified.

LC₅₀ prawn 42.5 ppm/48 hour salt water/conditions of bioassay not specified. This material may be toxic to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS

DISPOSAL: Dispose of in accordance with all federal state and local regulations. Send waste to an approved waste disposal facility.

EPA hazardous waste number: D002 Corrosive Waste

SECTION 14. TRANSPORTATION INFORMATION

Class 8

PG II

UN2796

Shipping Name: Sulfuric Acid Solution

RQ: 1,000 lbs

SECTION 15. REGULATORY

California Proposition 65 chemical Thiourea (Cancer), CAS# 62-56-6

The following component of this product is regulated as a toxic chemical under section 313 or Title III SARA, and 40CFR 372:

Thiourea CAS# 62-56-6

SECTION 16. OTHER INFORMATION

NFPA Codes:

Health: 3

Flammability: 0

Reactivity: 1

All ingredients of this product are listed on the US TSCA inventory under their parent anhydrous compounds.