



SAFETY DATA SHEET

1 - PRODUCT AND COMPANY IDENTIFICATION

SDS ID: 901213

Product Name TARN-X TARNISH REMOVER

Product Use Aqueous Acidic Tarnish Remover for Removal of Accumulated Tarnish on Sterling Silver, Silver Plate, Copper and Jewelry

Retail Packages: [12 fl. oz. (354.8 ml); 18 fl. oz. (532.3 ml)]

CAS# Proprietary Mixture

Restrictions on Use: Incompatible with strong oxidizing agents, acids, bases, and bleach. Do not use on stainless steel, chrome, pewter, aluminum, brass, zinc, marble, pearls, opals, and other porous stones.

Manufacturer: Jelmar, LLC
Address: 5550 W. Touhy Ave.
Skokie, IL 60077

Emergency Phone Number: 1(800) 323-5497 (USA)
Monday – Friday 8:30 A.M. – 4:30 P.M. CST
Emergency 24 hour Contact: Chemtrec 1(800) 424-9300

2 – HAZARDS IDENTIFICATION



Emergency Overview: WARNING: HARMFUL IF SWALLOWED; SKIN IRRITANT
DO NOT get in eyes, on skin or clothing. DO NOT mix with bleach or other household chemicals as harmful fumes may result. DO NOT ingest. DO NOT breathe vapor or mist. Use in well ventilated areas. Keep container closed when not in use.

**KEEP OUT OF REACH OF CHILDREN.
READ LABEL BEFORE USE.**

IF MEDICAL ADVICE IS NEEDED: HAVE PRODUCT CONTAINER OR LABEL AT HAND.

Potential Short Term Health Effects

Routes of Exposure Eyes, Skin, Inhalation, Ingestion.

Eyes Not an irritant, but avoid eye contact

Skin Causes skin irritation. Prolonged contact may cause dermatitis, and itching.

Inhalation No adverse effects expected under typical use conditions.

Ingestion Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause burns to the digestive tract.

Target Organs: Blood, liver, bone marrow, thyroid, reproductive system. Probable carcinogen and mutagen: Thiourea causes cancer in rats. Wash hands thoroughly after use.



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Chronic Effects: Prolonged or repeated exposure may cause reproductive and fetal effects. Laboratory experiments have resulted in mutagenic effects.

The International Agency for Research on Cancer (IARC) lists Thiourea as a 2B: Possibly Carcinogenic to Humans. The National Toxicological Program (NTP) lists Thiourea as a Group 2: Reasonably anticipated to be carcinogenic.

Medical Conditions Aggravated by Repeated or Prolonged Exposure to the Product: Skin, eye, blood, liver, heart, and respiratory system disorders.

SECTION 3 - COMPOSITION /INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS#</u>	<u>OSHA HAZARD</u>	<u>% by Weight</u>
1. Thiourea	62-56-6	Yes	5-7*
2. Sulfamic Acid	5329-14-6	Yes	3-5*

*Trade Secret

SECTION 4 – FIRST AID MEASURES

EYE CONTACT: In case of eye contact, immediately rinse eye thoroughly with plenty of water. Remove contact lenses, and continue rinsing for at least 15 minutes. If irritation persists, get medical attention.

SKIN CONTACT: Can be irritating to skin, prolonged contact can be more severe, no adverse effects during normal usage. In case of skin contact, rinse area for at least 15 minutes. Remove contaminated clothing and shoes, wash thoroughly before reuse. If irritation persists get medical attention.

INHALATION: Not a significant route of exposure. Remove to fresh air. If breathing is difficult, GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION: DO NOT induce vomiting. If fully conscious, drink 16 ounces of water. CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. NEVER give an unconscious person anything to ingest.

SECTION 5 – FIRE FIGHTING MEASURES

FLAMMABILITY: Not flammable

FLASH POINT: None; Method: ASTM D-56

EXPLOSIVE LIMITS IN AIR: Not available

EXTINGUISHING MEDIA: Not flammable. Use appropriate media for area. Use water spray, dry chemical, alcohol foam or carbon dioxide.

FIRE FIGHTING METHODS: Evacuate area of personnel. Wear protective NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers. Run-off of large quantities of product from fire control may cause pollution. Contact appropriate agencies.

HAZARDOUS COMBUSTION PRODUCTS: Carbon Monoxide. Thermal decomposition can lead to irritating gases and vapors.

FIRE AND EXPLOSION HAZARDS: None known.

SECTION 6 – ACCIDENTAL RELEASES MEASURES

Steps to be taken in Case Material is Released or Spilled: Avoid contact with skin and eyes

Small Spill: No special clean-up procedure is necessary for small (less than 1 gallon) spills. Flush spill area with water. Wear rubber gloves.

Large Spill: Use personal protection recommended in Section 8. Isolate area, and deny entry to unnecessary and unprotected personnel. Dam spill, and absorb with earth, sand or similar material. Place



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in non-leaking containers. Dispose of collected material according to local, state, and federal regulations. Flush residue with large amount of water. Avoid direct discharge to sewers and surface waters.

SECTION 7- HANDLING AND STORAGE

STORAGE: Store in cool, well-ventilated area, away from heat. Keep containers tightly closed. Avoid contact with combustible materials, wood, and organic materials. Store in original container in a secure area away from children and pets.

HANDLING: Avoid contact with eyes, skin or clothing. May be harmful or if swallowed. Use with adequate ventilation. Avoid breathing vapors or mist. Do not eat, drink, or smoke in work area. Wash hand thoroughly after use. Consumer size containers (12 and 18 fluid ounces), should be rinsed and recycled. **DO NOT PRESSURIZE, CUT OR EXPOSE THESE CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY.**

DO NOT MIX WITH BLEACH, OR ANY OTHER PRODUCTS AS TOXIC FUMES MAY RESULT. KEEP OUT OF REACH OF CHILDREN.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION REQUIREMENT: Avoid prolonged breathing mists or dusts of this product. Use with adequate ventilation. Do not use in closed or confined spaces.

RESPIRATORY PROTECTION: None required during normal household use. Emergency responders should wear self-contained breathing apparatus (SCBA) to avoid inhalation of product.

EYE PROTECTION: Not required during normal household usage. Emergency responders should wear full eye and face protection.

SKIN PROTECTION: Rubber gloves with protective cuff. Emergency responders should wear impermeable gloves.

OTHER PROTECTION: Emergency responders should wear chemical type (impermeable) protective clothing and footwear where direct contact with chemicals in this product is possible.

WORK/HYGIENIC PRACTICES: Wash thoroughly with soap and water after use or handling.

EXPOSURE GUIDELINES:

<u>COMPONENT</u>	<u>OSHA</u>		<u>ACGIH</u>	
	<u>PEL</u>	<u>STEL/C</u>	<u>TWA</u>	<u>STEL/C</u>
Thiourea	N.E.	N.E.	N.E.	N.E.
Sulfamic Acid	N.E.	N.E.	N.E.	N.E.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Slightly hazy to clear liquid	pH @20°C:	0.85 - 1.05
Odor: Slightly acidic	Specific Gravity:	1.029 - 1.049
Boiling point: 103° C / 217° F	Percent Volatiles:	(WT %) ~90 (Calculated)
Freezing Point (°F): N.D.	Evaporation Rate:	N.D. (n-ethyl acetate=1)
Melting Point (°F): N.D.	Solubility in Water:	Soluble
Vapor Pressure (mm HG): N.D.	VOC (WT %):	<0.06 (Calculated)
Vapor Density: N.D.		



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SECTION 10 – STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions.

CONDITIONS TO AVOID: Avoid elevated temperatures.

INCOMPATIBLE MATERIALS: Strong oxidizers, nitric acid, chlorine, acrolein, acrylaldehyde, strong bases, and hydrogen peroxide.

HAZARDOUS DECOMPOSITION PRODUCTS: May emit ammonia and oxides of sulfur, nitrogen, and carbon.

POSSIBILITY OF HAZARDOUS REACTIONS: May occur when in contact with acrylaldehyde.

SECTION 11 – TOXICOLOGICAL INFORMATION

LD₅₀ ACUTE EYE IRRITATION: OPPTS 8740.2400 Toxicity Category III - Irritant; GHS Toxicity Category 2B – Mild Irritant

LD₅₀ ACUTE DERMAL IRRITATION - RABBITS: OPPTS 870.2500 Toxicity Category IV – Mild or Slight Skin Irritation; GHS Category 3 – Mild Skin Irritation.

LD₅₀ ACUTE ORAL TOXICITY – RATS: OPPTS 870.1100 Toxicity Category II; GHS Category IV – Warning if swallowed

LD₅₀ ACUTE DERMAL TOXICITY - RABBITS: OPPTS 870-1200 Toxicity Category IV >5 g/kg – Not Toxic; GHS Category 5 >5,000 mg/kg – Not Toxic

LD₅₀ ACUTE INHALATION TOXICITY – RATS: OPPTS 870.1300 Toxicity Category IV - Not toxic by inhalation; GHS Category 5 - Not toxic by inhalation.

THIOUREA: SECTION 2.

SECTION 12- ECOLOGICAL INFORMATION

Ecological information

Thiourea:

Fish: Fathead Minnow: LC₅₀>600 mg/L; 96 Hr.; Unspecified Bacteria

Phytobacterium phosphoreum: EC₅₀ = 3,400 mg/L; 15 min

Microtox test Water Flea Daphnia: LC₅₀ = 1.8 mg/L

Thiourea will react with hydroxyl radicals in sunlit natural waters with an estimated half-life of 171 days. Hydrolysis, volatilization, absorption to sediments, and bioconcentration are not expected to be important aquatic fate processes.

Thiourea appears to be generally resistant to aquatic biodegradation as demonstrated by various standard biodegradation tests.

Sulfamic Acid:

Due to low pH, Sulfamic Acid would be expected to produce significant ecotoxicity in aquatic system and exposure to aquatic organisms.

No other data available.



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ECOTOXICOLOGICAL INFORMATION: Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

TARN-X TARNISH REMOVER CHEMICAL FATE INFORMATION: 28-day biodegradation. The matter is biodegradable: **OECD 301D.**

SECTION 13 – DISPOSAL CONSIDERATIONS

HAZARDOUS WASTE NUMBER: D002

DISPOSAL METHOD: Rinse empty containers and recycle. Dispose of unused product in a permitted hazardous waste management facility following all local, state, and federal regulations.

DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION.

Follow label warnings, since containers may retain some residue of the product.

Processing, use or contamination of this product may change the waste management options. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. State and local disposal regulations may differ from federal disposal regulations.

SECTION 14 - TRANSPORTATION INFORMATION

The following Transportation Information applies only to 12 and 18 fl. oz. bottles:

DOT (Department of Transportation Proper Shipping Name): Limited Quantity

DOT Identification Number: N.A.

Packaging Group: N.A.

Identification Number: UN2922

Reportable Quantity (RQ): 10# Thiourea

TDG Classification: Limited Quantity

IMDG Classification: Limited Quantity - Transport in accordance with 3.4.4.1.2 of the IMDG Code

IATA Classification: Passenger – NO; Cargo – YES; Packaging Instructions 820 (12, 18 fl. oz.)

WHIMS (Canada): DIA, D1B, and D2A. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by CPR.

SECTION 15 – REGULATORY INFORMATION

FEDERAL REGULATIONS:

TSCA INVENTORY STATUS: All components of this product are listed on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SARA TITTLE III SECTION 311/312 CATEGORY:

IMMEDIATE (ACUTE) HEALTH HAZARD:	YES
DELAYED (CHRONIC) HEALTH HAZARD:	YES
FIRE HAZARD:	NO
SUDDEN RELEASE OF PRESSURE:	NO
REACTIVE HAZARD:	NO

SARA SECTIONS 302/304/313/HAP: NO



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INTERNATIONAL CHEMICAL INVENTORY STATUS:

EUROPEAN UNION (EINECS)	YES
JAPAN (METI)	YES
AUSTRALIA (ACIS)	YES
KOREA (KECL)	YES
CANADA (DSL)	YES
CANADA (NDSL)	NO
PHILIPPINES	YES

STATES RIGHT TO KNOW: California, New Jersey, Pennsylvania, Minnesota, Massachusetts, and Wisconsin. Complies with listed States Right to Know Act.

The following statement is made in order to comply with the California State Drinking Water Act. California **Proposition 65:** This product contains Thiourea known to the State of California to cause cancer and/or to cause birth defects and other reproductive harm.

SECTION 16 – OTHER INFORMATION

Precautions to be taken in Handling and Storing: Avoid exposure to excess heat, and prevent from freezing.

Other Precautions: None required.

MSDS ABBREVIATIONS:

N. A.:	Not Applicable
N. D.:	Not Determined
N.E.:	Not Established
C:	Ceiling Limit
HAP:	Hazardous Air Pollutant
VOC:	Volatile Organic Compound

Revision: GHS Format; Additional information December 2013

R. A. Gaudreault

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