

**JELMAR
MATERIAL SAFETY DATA SHEET
TARN-X TARNISH REMOVER**

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

| | | | |
|-------------------------|--|--------------------------------|---|
| Manufacturer: | Jelmar | Emergency Phone Number: | 1(800) 323-5497 (USA) |
| Address: | 5550 W. Touhy Ave. Skokie, IL 60077 | | Monday – Friday 8:30 A.M. – 4:30 P.M. CST |
| | | Emergency Contact: | Chemtrec 1(800) 424-9300 |
| Product Name: | Tarn-X Rinse & Wipe | | |
| MSDS ID: | 900807 | | |
| Chemical Family: | Aqueous acidic surfactant solution | | |
| Formula: | Proprietary Mixture | | |

SECTION 2 – HAZARDS IDENTIFICATION

PHYSICAL STATE: Liquid
COLOR: Clear, water white to slightly hazy
ODOR: Chemical

EMERGENCY OVERVIEW: Warning! Contains Sulfamic Acid and Thiourea. IRRITATING. TOXIC. HARMFUL OR FATAL IF SWALLOWED. Causes severe burns to eyes, skin and respiratory track.

POTENTIAL HEALTH EFFECTS:

ROUTES OF EXPOSURE: Eyes, Skin, Inhalation and Ingestion.

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

EYE CONTACT: Can cause blurred vision, redness, pain, severe tissue pain, and eye damage. Effects may vary depending on length of exposure, solution concentration, and first aid measures.

SKIN CONTACT: Causes skin irritation.

INHALATION: May cause mucous membranes and upper respiratory tract irritation. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

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

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.

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

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SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

| Component | CAS # | OSHA Hazard | % by Weight |
|-----------------------------------|--------------|--------------------|--------------------|
| 1. Water | 7732-18-5 | No | 85-95 |
| 2. Thiourea | 62-56-6 | Yes | 5 - 7 |
| 3. Sulfamic Acid | 5329-14-6 | Yes | 3 – 5 |
| 4. Disodium Cocoamphodipropionate | 68604-71-7 | No | <1.0 |
| 5. Methanol | 67-56-1 | Yes | <0.05 |

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. Get immediate 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. Get immediate medical attention if irritation persists.

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 (104° C / 219° F): Method: TOC

EXPLOSIVE LIMITS IN AIR: Not available

EXTINGUISHING MEDIA: Not flammable. Use appropriate media for area. 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: Sulfur and Nitrogen Oxides, Ammonia, Carbon Dioxide and Carbon Monoxide.

FIRE AND EXPLOSION HAZARDS: Large quantities of product may react with some metals, i.e. Aluminum Zinc, and Tin, to release flammable hydrogen gas.

SECTION 6 – ACCIDENTAL RELEASES MEASURES

Steps to be taken in Case Material is Released 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 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. Report any spill over 25 gallons, if direct discharge to sewers and surface waters has occurred to authorities.

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SECTION 7 – HANDLING AND STORAGE

STORAGE: Contains Sulfamic Acid and Thiourea. 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. **DO NOT STORE NEAR FOOD.**

HANDLING: Avoid contact with eyes, skin or clothing. May be harmful or fatal 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 16 fluid ounces and gallon containers), should be rinsed and recycled.

Empty 5gallon containers and 55gallon drums, may contain product residue in form of vapor, dried product, or liquid, and can be dangerous. **DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND 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. DO NOT STORE WITH FOOD. 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: If product is used in an industrial setting, respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits. If dust or mist is present, wear NIOSH-Approved respirator for mists and dusts, NIOSH-Approved self-contained breathing apparatus, NIOSH-Approved full-facepiece positive-pressure, air-supplied respirator. **DO NOT** exceed limits established by respirator manufacturer. Emergency responders should wear self-contained breathing apparatus (SCBA) to avoid inhalation of product.

EYE PROTECTION: Not required during normal household usage. Industrial users wear safety goggles. Do not wear contact lenses. 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:

Component

| <u>Component</u> | <u>OSHA</u> | | <u>ACGIH</u> | |
|-----------------------------------|------------------------|---------------|--------------|---------------|
| | <u>PEL</u> | <u>STEL/C</u> | <u>TWA</u> | <u>STEL/C</u> |
| 1. Water | N.E. | N.E. | N.E. | N.E. |
| 2. Thiourea | N.E. | N.E. | N.E. | N.E. |
| 3. Sulfamic Acid | N.E. | N.E. | N.E. | N.E. |
| 4. Disodium Cocoamphodipropionate | N.E. | N.E. | N.E. | N.E. |
| 5. Methanol | 200ppm | N.E. | s 200ppm | s 250ppm |
| | s 200 ppm + s 250ppm + | | | |

(s) – Skin

N.E. – Not Established

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SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|--------------------------------|-----------------|-----------------------------|--------------------------|
| Boiling point: | 103° C / 217° F | Specific Gravity: | 1.029 - 1.049 |
| Freezing Point (°F): | N.D. | Percent Volatiles: | (WT%)~90 (Calculated) |
| Melting Point (°F): | N.D. | Evaporation Rate: | N.D. (n-ethyl acetate=1) |
| Vapor Pressure (MM HG): | N.D. | Solubility in Water: | Soluble |
| Vapor Density: | N.D. | VOC (WT%): | <0.06 (Calculated) |
| pH: | 0.85 - 1.05 | VOC (LBS/GAL): | <005 (Calculated) |

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

ACUTE ORAL EFFECTS: A dose of 5g / kg body weight was given to 5 male and 5 female rats; 10% mortality occurred within 14 days. The acute oral LD50 found to be > 5 g/kg. The product is not toxic by oral ingestion in accordance with FHSA / CPSC Guidelines.

SKIN EFFECTS: Slightly irritating to rabbit skin. Draize Score: 0.71 out of 8.00.

INHALATION: N. E.

SECTION 12 – ECOLOGICAL INFORMATION

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

CHEMICAL FATE INFORMATION: 28-day biodegradation = 60%. The matter is biodegradable.

SECTION 13 – DISPOSAL CONSIDERATIONS

HAZARDOUS WASTE NUMBER: D002

DISPOSAL METHOD: Dispose of 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.

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SECTION 14 – TRANSPORTATION INFORMATION

The following Transportation Information applies only to 12 fl oz, 16 fl oz, and 128 fl oz (1 Gallon) packaging:

DOT (Department of Transportation Proper Shipping Name): ORM-D

DOT Identification Number: N.A.

Packaging Group: N.A.

The following Transportation Information applies to 5gallon containers and 55gallon drums:

DOT Proper Shipping Name: Corrosive Liquid, Toxic, N.O.S. (Contains Sulfamic Acid, Thiourea)

Hazard Class: 8

Identification Number: UN2922

Packaging Group: III

Label Required: Corrosive, Toxic

Reportable Quantity (RQ): 10# Thiourea

TDG Classification: Corrosive Liquid, Toxic, N.O.S. (Contains Sulfamic Acid, Thiourea) Class 8, UN2922, PG III

IMDG Classification: Corrosive Liquid, Toxic, N.O.S. (Contains Sulfamic Acid, Thiourea) Class 8, UN2922, PG III, U219

IATA Classification: Passenger – NO; Cargo – YES; Packaging Instructions 820 [12fl oz, 16fl oz, and 128fl oz (1 Gallon) packaging]

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 MSDS 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 EPA/TSCA Inventory of Chemical Substances.

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:

| <u>Component</u> | <u>RQ (LDS)</u> (1*) | <u>RQ (LBS)</u> (2*) | <u>TPQ (LBS)</u> (3*) | <u>SEC 313</u> (4*) | <u>HAP</u> (5*) |
|------------------------------------|-------------------------|-------------------------|--------------------------|------------------------|--------------------|
| 1. Water: | N.A. | N.A. | N.A. | NO | NO |
| 2. Thiourea: | 10 | N.A. | N.A. | YES | NO |
| 3. Sulfamic Acid: | N.A. | N.A. | N.A. | NO | NO |
| 4. Disodium Cocoamphodipropionate: | N.A. | N.A. | N.A. | NO | NO |
| 5. Methanol: | 5,000 | N.A. | N.A. | YES | YES |

REGULATORY AGENCIES

*1: CERCLA Reportable Quantity

*2: SARA reportable Quantity

*3: SARA EHS Threshold Planning Quantity

*4: SARA 313 Toxic Chemical/Category

*5: U. S. EPA Hazardous Air Pollutant

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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 |
| PHILAPINES | YES |

STATES RIGHT TO KNOW: California, New Jersey, Pennsylvania, Minnesota, Massachusetts, and Wisconsin.

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

NFPA Rating System: Health-2 / Flammability-0 / Reactivity-0

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: None

August 2007

R. A. Gaudreault

Although the information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof, JELMAR offers no representations as to the completeness or accuracy thereof. Information is provided upon the condition that the persons receiving it will make their own determination as to its suitability for their purposes prior to use. In no event will JELMAR be responsible for damages of any nature whatsoever resulting from use of or reliance upon said information.

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