



Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: TARNI-SHIELD BRAND COPPER/BRASS CLEANER (CAT. NO. 629)

MANUFACTURER: 3M

DIVISION: Protective Materials & Consumer Specialties Division

ADDRESS: 3M Center
St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

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Product Use:

Specific Use: CLEANS AND PROTECTS COPPER & BRASS FROM TARNISH

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
WATER	7732-18-5	60 - 80
FLUX CALCINED DIATOMACEOUS EARTH	68855-54-9	6 - 10
SODIUM CHLORIDE	7647-14-5	4 - 8
CITRIC ACID	77-92-9	3 - 7
1-OCTADECANETHIOL	2885-00-9	1 - 4
POLYSORBATE 20	9005-64-5	1 - 3
HYDROXYPROPYL METHYL CELLULOSE	9004-65-3	1 - 3
SILICA, FUMED, CRYSTALLINE FREE	112945-52-5	1 - 3
SORBITAN MONOLAUROATE	1338-39-2	0.5 - 1.5

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Slurry

Odor, Color, Grade: Copper color, slight odor

General Physical Form: Liquid

Immediate health, physical, and environmental hazards:

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Mild Eye Irritation: Signs/symptoms may include redness, pain, and tearing.

Skin Contact:

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, and itching.

Inhalation:

This product may have a characteristic odor; however, no adverse health effects are anticipated.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. Get medical attention.

Skin Contact: Wash affected area with soap and water. If signs/symptoms develop, get medical attention.

Inhalation: No need for first aid is anticipated.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	No Data Available
Flash Point	Not Applicable
Flammable Limits - LEL	Not Applicable
Flammable Limits - UEL	Not Applicable

5.2 EXTINGUISHING MEDIA

Material will not burn.

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: Not applicable.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Call 3M-HELPS line (1-800-364-3577) for more information on handling and managing the spill. Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. Contain spill. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. For large spills, if necessary, get assistance from professional spill clean up team. For small spills, carefully cover the spill with soda ash (sodium carbonate) or sodium bicarbonate. Work from around the perimeter inward. Avoid splashing. Add enough water to ease mixing and stir. Continue stirring and adding water and neutralizing agent until the reaction stops. Let cool before collecting. Or use a commercially available 'Acid spill' clean-up kit. Follow the kit directions exactly, as specified. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard. Collect as much of the spilled material as possible. Clean up residue with detergent and water. Collect the resulting residue containing solution. Place in a metal container approved for use in transportation by appropriate authorities. The container must be lined with polyethylene plastic or contain a plastic drum liner made of polyethylene. Cover, but do not seal for 48 hours. Dispose of collected material as soon as possible.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Keep out of the reach of children. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

7.2 STORAGE

Store under normal warehouse conditions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use in a well-ventilated area.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

The following eye protection(s) are recommended: Safety Glasses with side shields.

8.2.2 Skin Protection

Avoid prolonged or repeated skin contact. Gloves not normally required.

8.2.3 Respiratory Protection

Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.

Not required

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
FLUX CALCINED DIATOMACEOUS EARTH	OSHA	TWA, as total dust	6 mg/m ³	Table Z-1A

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Slurry
Odor, Color, Grade:	Copper color, slight odor
General Physical Form:	Liquid
Autoignition temperature	<i>No Data Available</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>
Boiling point	100 °C
Density	1.1 [<i>Ref Std: WATER=1</i>]
Vapor Pressure	18 mmHg [<i>@ 20 °C</i>]
Specific Gravity	1.1 [<i>Ref Std: WATER=1</i>]
pH	1.8
Melting point	<i>Not Applicable</i>
Solubility In Water	<i>No Data Available</i>
Volatile Organic Compounds	<=1 %
VOC Less H₂O & Exempt Solvents	<i>No Data Available</i>
Viscosity	800 - 2000 centipoise [<i>@ 68 °F</i>]

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition: Not determined.

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Incinerate in a permitted hazardous waste incinerator in the presence of a combustible material. As a disposal alternative, dispose of waste product in a permitted hazardous waste facility.

EPA Hazardous Waste Number (RCRA): D002 (Corrosive)

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

44-0004-3553-5, 70-0700-1441-3, 70-0702-5556-0, 70-0704-4264-8, 70-0705-5790-8, 70-0705-8080-1, 70-0705-9058-6, 70-0706-3565-4, 70-0706-7524-7, 70-0707-1717-1, 70-0707-2971-3, 70-0708-2472-0, 70-0709-1610-4, 70-0709-3144-2, 70-0709-7301-4, 70-0709-7346-9, 70-0713-5160-8

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION**NFPA Hazard Classification**

Health: 0 Flammability: 0 Reactivity: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision Changes: Not Applicable

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