Rcvd Nov 2001

ARMOUR PRODUCTS
MATERIAL SAFETY DATA SHEET
ARMOUR ETCH CREAM

411628 / 744-600
236103 / 744-611
236106 / 744-612

SECTION I: CHEMICAL PRODUCTS AND COMPANY IDENTIFICATION

Common Name	: NOT APPLICABLE
Chemical Name	: CHEMICAL MIXTURE
Formula	: CHEMICAL MIXTURE
Product CAS No.	: CHEMICAL MIXTURE
Product Use	: FROSTING GLASS AND GLASSWARE

Supplier	: ARMOUR PRODUCTS INC.
Address	: P. O. BOX 128
City, ST, Zip	: WYCKOFF, NJ 07481
Phone	: 1-201-847-0404

83331

FOR CHEMICAL EMERGENCY CALL CHEMTREC (24 HOURS)
1-800-424-9300 (US, Canada, Puerto Rico, Virgin Islands)
1-202-483-7616 (Outside Above Area)

SECTION II: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO.	% Wt.
FLUORIDE COMPOUNDS, INORGANIC	IN TSCA	30 - 60
TITANIUM DIOXIDE	13463-67-7	1 - 5
CITRIC ACID	77-92-9	10-30

NOTE: See Section VIII for Exposure Limits and Section XI for Toxicological Information.

SECTION III: HAZARD IDENTIFICATION

EMERGENCY OVERVIEW
Pungent tan paste
Flash Point:) 100°C
May be fatal if swallowed.
Causes eye and skin burns.
May cause respiratory tract irritation.
Not a fire or explosive hazard, however, upon contact with most metals, flammable hydrogen gas will be emitted.

ROUTES OF ENTRY
Eyes? YES Skin? YES Inhalation? YES Ingestion? YES

POTENTIAL HEALTH EFFECTS
EYE CONTACT may cause severe irritation with possible corneal burns.
SKIN CONTACT causes severe burns and fluoride-like burns which may not be immediately evident.
INHALATION may cause irritation to respiratory tract and lung damage if exposure is excessive.
INGESTION can cause serious damage to the mouth, esophagus, stomach, and other tissues with which contact is made. Ingestion may be fatal.

CARCINOGENICITY
NTP? NO IARC? NO OSHA? NO

CHRONIC HEALTH HAZARDS
Exposure to FLUORIDES over years may produce mottling of tooth enamel, embrittlement and decalcification of bones, and increased calcification of ligaments and vertebrae resulting in spinal stiffness (fluorosis).

Repeated exposure may cause dental erosion, jaw necrosis, nasal ulceration, asthma, bronchitis, and other respiratory ailments.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
May aggravate existing medical conditions such as allergies, dermatitis, asthma, bronchitis or any other respiratory ailment.

NOTE: See Section VIII for Exposure Limits, Section XI for Toxicological Information and Section X for Ecological Information.

SECTION IV: FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during this flushing with water. Call a physician immediately.

SKIN CONTACT: Flush area with water while removing contaminated clothing and shoes. Follow by washing with soap and water. Do not reuse clothing or shoes until cleaned. If irritation persists, get medical attention. Do not apply oils or ointments unless ordered by physician.

INHALATION: Remove to fresh air. If breathing is difficult, give oxygen. Call a physician.

INGESTION: If conscious, drink a quart of water. DO NOT induce vomiting. Call a physician immediately. If unconscious or in convulsions, take immediately to a hospital or physician. Never induce vomiting or give anything by mouth to an unconscious person.

SECTION V: FIRE-FIGHTING MEASURES

Flash Point:)100°C
Auto-ignition: Not Determined
LEL: Not Determined
JEL: Not Determined

NFPA HAZARD CLASSIFICATION
Health: 3 Flammable: 0 Reactivity: 0

HMIS HAZARD CLASSIFICATION
Health: 3* Flammable: 0 Reactivity: 0

EXTINGUISHING MEDIA
Use water, foam or dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES
Wear NIOSH/MSHA approved positive-pressure self-contained breathing apparatus and protective clothing as specified in 29 CFR 1910.156.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Not a fire or explosion hazard, however, upon contact with most metals, flammable hydrogen gas will be emitted.

SECTION VI: ACCIDENTAL RELEASE MEASURES

Contain spillage; soak up with inert absorbent and scoop into container for disposal. Notification of the National Response Center (800-424-8002) may be required. Refer to EPA, DOT and applicable state and local regulations for current response information.

It is recommended that each user establish a spill prevention, control and countermeasure plan (SPCC). Such a plan should include procedures applicable to proper storage, control and clean up of spills, including reuse or disposal as appropriate (see Section XI: Disposal Considerations).

NOTE In the event of an accidental release of this material, the above procedures should be followed. Additionally, proper exposure controls and personal protective equipment should be utilized (see Section VIII: Exposure Control/ Personal Protection) and disposal of the material should be in accordance with Section XI: Disposal Considerations.

SECTION VII: HANDLING AND STORAGE

Keep container closed.
Store in a cool, dry location.
Use with adequate ventilation.
Do not breathe vapors or mists.
Avoid contact with eyes, skin and clothing.
Provide a safety shower and eyewash close to where this material is being used.
All personal protective equipment, tools, etc., should be neutralized thoroughly with sodium carbonate or dilute ammonia after each use. Check gloves DAILY for pinhole leaks. Discard defective gloves. Never touch outer surfaces of gloves after use. Wash contaminated clothing before reuse. Destroy contaminated shoes.

SECTION VIII: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

INGREDIENT	**PEL-OSHA**	**TLV-ACGIH**
FLUORIDE COMPOUNDS, INORGANIC CAS NO: IN TSCA	2.5 mg/m^3 (as F)	2.5 mg/m^3 (as F)
TITANIUM DIOXIDE CAS NO: 13463-67-7	10 mg/m^3 (Total Dust) 5 mg/m^3 (Respirable)	10 mg/m^3

Not all TLVs/PELs may be applicable since the material is a paste.
Unless otherwise noted, all values are reported as 8-hour Time-Weighted Averages (TWAs) and total dust (particulates only). All ACGIH TLVs refer to the 1995-96 Values. All OSHA PELs refer to 29 CFR Part 1910 Air Contaminants: Final Rule, January 19, 1989. NOTE: As a result of the July 7, 1992 decision by the U.S. Circuit Court of Appeals (AFL-CIO vs. OSHA) to vacate the 1989 PELs, OSHA will no longer enforce these new limits and will return to the pre-1989 PELs. Armour Products Inc., however, will continue to list the more protective 1989 levels.

RESPIRATORY PROTECTION
A NIOSH/MSHA-approved respirator as necessary.

VENTILATION
General, local exhaust ventilation as necessary to control any air contaminants to within their PELs or TLVs during the use of this product.

PROTECTIVE EQUIPMENT
Chemical goggles: Full face shield if needed.
Rubber or neoprene gloves.
Body protection as necessary to prevent skin contact.

PERSONAL SAMPLING PROCEDURES
For FLUORIDE COMPOUNDS: Refer to NIOSH Manual of Analytical Methods, 3rd Edition, Volume 1, Method 7902.

SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES
Boiling Point: Not Determined
Specific Gravity: ($H_2O = 1$): Not Determined
Melting Point: Not Determined
Vapor Pressure (mm Hg): Not Determined
Vapor Density (Air = 1): Not Determined
Evaporation Rate (Butyl Acetate = 1): Not Determined
% Solubility in Water: Soluble
Appearance: Tan paste
Odor: Pungent
pH: < 1

SECTION X: STABILITY AND REACTIVITY
STABILITY
Generally considered stable.
Avoid: None expected.

INCOMPATIBILITIES (Materials to Avoid)
Carbides, chlorates, cyanides, metal powders, nitrates.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS
Hydrogen fluoride.

POLYMERIZATION
Polymerization is not expected to occur.
Avoid: Not applicable.

SECTION XI: TOXICOLOGICAL INFORMATION

CHEMICAL NAME	LD_{50}	LC_{50}
FLUORIDE COMPOUNDS, INORGANIC CAS NO: In TSCA	Not Available	185 ppm/1hr (as F), RAT
TITANIUM DIOXIDE CAS NO: 13463-67-7	Not Available	Not Available
CITRIC ACID CAS NO: 77-92-9	5040 mg/Kg, oral, MOUSE	Not Available

NOTE: See Sections III, VIII and XII for additional information.

SECTION XII: ECOLOGICAL INFORMATION

ECOTOXICITY
No data available.

ENVIRONMENTAL FATE
No data available.

SECTION XIII: DISPOSAL CONSIDERATIONS

US EPA Waste Number: D002

Federal, state and local disposal laws and regulations will determine the proper waste disposal/recycling/ reclamation procedure. All waste materials should be reviewed to determine the applicable hazards (testing may be necessary). Any material classified as a DOT Corrosive or any waste solutions with a pH of ≤ 2 or ≥ 12.5 are hazardous wastes under US EPA hazardous waste regulations. Disposal requirements are dependent on the hazard classification and will vary by location and the type of disposal selected.

NOTE Chemical additions, processing or otherwise altering this material may make the waste management information presented above incomplete, inaccurate or otherwise inappropriate.

As local regulations may vary, all waste must be disposed/recycled/reclaimed in accordance with applicable federal, state and local environmental control regulations.

SECTION XIV: TRANSPORTATION INFORMATION

INTERNATIONAL
UN Number: 3260

UNITED STATES
EPA Waste Number: D002
DOT Classification: CLASS 8 - Corrosive Materials
DOT Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC N.O.S. (Fluorides and Citric Acid)

CANADA
PIN Number: 3260
TDG Class: Corrosive

EC
DGL Class: Corrosive

SECTION XV: REGULATION INFORMATION

US FEDERAL REGULATIONS

TSCA: IN TSCA

SARA 311 AND 312 HAZARD CATEGORIES
IMMEDIATE (Acute) Health Hazard: YES
DELAYED (Chronic) Health Hazard: YES
FIRE Hazard: NO
REACTIVITY Hazard: NO
Sudden Release of PRESSURE: NO

SARA SECTION 313 NOTIFICATION
This product does not contain toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

OZONE DEPLETING SUBSTANCES (ODS)
This product neither contains nor is manufactured with an ozone depleting substance subject to the labeling requirements of the Clean Air Act Amendments 1990 and 40 CFR Part 82.

VOLATILE ORGANIC COMPOUNDS (VOC)
Not Determined

US STATE REGULATIONS
VOLATILE ORGANIC COMPOUND (CARB): Not Determined

CANADIAN REGULATIONS
DSL/NDSL: Domestic Substance List
WHMIS Classification: Class E - CORROSIVE MATERIAL

EUROPEAN REGULATIONS
EINECS: On EINECS European Inventory

OTHER REGULATIONS
MITI: Not on MITI ENCS Japan List
AICS: On AICS Australian Inventory

SECTION XVI: OTHER INFORMATION

REVISIONS
Revision Number: 2
This MSDS has been revised in the following section(s):

PREPARATION INFORMATION
Prepared By: WJS Associates Inc., PO Box 129, Pequannock, NJ 07440

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, o otherwise be exposed to this product. This information has been prepared for the guidance of plant engineering, operations, and management and for persons working with or handling this product. The information presented in th MSDS is premised upon proper handling and anticipated uses and is for the material without chemical additions/alterations. We believe this information to be reliable and up-to-date as of the date of publication, but mak no warranty that it is. Additionally, if this Material Safety Data Sheet is more than three years old, please contact ARMOUR PRODUCTS at the phone number listed in SECTION I to make certain that this sheet is current.

END OF MSDS.....