## ALUMINUM ETCH MATERIAL SAFETY DATA SHEET

02/05/00 MSDS PROVIDED BY:

## STOODY INDUSTRIAL AND WELDING SUPPLY, INC.

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U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved OMB No. 44-R1387

## MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

| SECTION I   |   |   |                              |         |   |                                |  |  |  |  |
|---|---|---|------------------------------|---------|---|--------------------------------|--|--|--|--|
| MANUFACTURER'S NAME   | EMERGENCY TELEPHONE NO.   |   |                              |         |   |                                |  |  |  |  |
| AMERICAN CHEMICAL & FLUX PROD   | 3   | (323) 723-0711  |                              |         |   |                                |  |  |  |  |
|   | FAX (323) 722-3977  |   |                              |         |   |                                |  |  |  |  |
| ADDRESS (Number, Street, City, State, and ZIP)  | Code)   |   | ( /                          |         |   |                                |  |  |  |  |
| 5722 UNION PACIFIC AVE., LOS ANGELES, CA 90022  |   |   |                              |         |   |                                |  |  |  |  |
| CHEMICAL NAME AND SYNONYMS  |   |   | TRADE NAME AND SYNONYMS      |         |   |                                |  |  |  |  |
|   |   |   | ALUMINUM ETCH                |         |   |                                |  |  |  |  |
| CHEMICAL FAMILY   |   |   | FORMULA                      |         |   |                                |  |  |  |  |
| ALKALI  |   |   |                              |         |   |                                |  |  |  |  |
| ·   |   |   |                              |         |   |                                |  |  |  |  |
| SECTION II – HAZARDOUS INGREDIENTS  |   |   |                              |         |   |                                |  |  |  |  |
| PAINTS, PRESERVATIVES, & SOLVENTS   | %   | TLV   | ALLOYS AND METALLIC COATINGS |         |   | TLV                            |  |  |  |  |
| , ,   |   | (Units)   |                              |         |   | (Units)                        |  |  |  |  |
| PIGMENTS  | 0   |   | BASE METAL                   |         | 0 |                                |  |  |  |  |
| CATALYST  | 0   |   | ALLOYS                       |         | 0 |                                |  |  |  |  |
| VEHICLE   | 0   |   | METALLIC COATINGS            |         | 0 |                                |  |  |  |  |
| SOLVENTS  | 0   |   | FILLER METAL                 |         | 0 |                                |  |  |  |  |
|   |   |   | PLUS COATING OR COR          | RE FLUX |   |                                |  |  |  |  |
| ADDITIVES   | 0   |   | THERS                        |         | 0 |                                |  |  |  |  |
| OTHERS  | 0   |   |                              |         |   |                                |  |  |  |  |
| HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES                                   |   |   |                              |         |   | TLV                            |  |  |  |  |
| SODIUM HYDROXIDE CAS #1310-73-2   |   |   |                              |         |   | (Units)<br>2 mg/M <sup>3</sup> |  |  |  |  |
| SODIUM HYDROXIDE CAS #1310-73-2 SODIUM CARBONATE CAS #497-19-8                          |   |   |                              |         |   | N/A                            |  |  |  |  |
|   |   |   |                              |         |   | N/A                            |  |  |  |  |
| DEIONIZED WATER N/A N/A   |   |   |                              |         |   | IN/A                           |  |  |  |  |
| CECTION III DUVCICAL DATA   |   |   |                              |         |   |                                |  |  |  |  |
| SECTION III – PHYSICAL DATA   |   |   |                              |         |   |                                |  |  |  |  |
| /   | 12ºF<br>VA  | SPECIFIC GRAVITY (H₂0=1) 1.17 PERCENT, VOLATILE BY VOLUME (%) |                              |         |   | 1.17                           |  |  |  |  |
|   |   | EVAPORATION RATE  | BY VOLUME (%)                |         |   |                                |  |  |  |  |
| VAPOR DENSITY (AIR=1)   | I/A   | ( = 1)  |                              |         |   |                                |  |  |  |  |
| SOLUBILITY IN WATER COMPLETE  |   | = 1)  |                              |         |   |                                |  |  |  |  |
|   | N 0115  | NATIONIE .  |                              |         |   |                                |  |  |  |  |
| APPEARANCE AND ODOR SLIGHTLY CLOUDY LIQUID  |   |   |                              |         |   |                                |  |  |  |  |
|   |   |   |                              |         |   |                                |  |  |  |  |
| SECTION IV- FIRE AND EXPLOSION HAZARD DATA  |   |   |                              |         |   |                                |  |  |  |  |
| FLASH POINT (Method used) NONE FLAMMABLE LIMITS   |   | FLAMMABLE LIMITS  |                              | Lel     |   | Uel                            |  |  |  |  |
|   |   |   |                              |         |   |                                |  |  |  |  |
| EXTINGUISHING MEDIA WILL NOT BURN OR SUPPORT COMBUSTION                                 |   |   |                              |         |   |                                |  |  |  |  |
| SPECIAL FIRE FIGHTING PROCEDURES DO NOT SPLASH THIS MATERIAL ON SKIN, EYES, OR CLOTHING |   |   |                              |         |   |                                |  |  |  |  |
|   | UNUSUAL FIRE AND EXPLOSION HAZARDS IN AN ALUMINUM ETCHING PROCESSES, HYDROGEN GAS IS RELEASED AS A RESULT |   |                              |         |   |                                |  |  |  |  |
| OF THE CHEMICAL ACTION  |   |   |                              |         |   |                                |  |  |  |  |

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| SECTION V- HEALTH HAZARD DATA  |             |  |                |               |          |  |  |  |  |  |  |
|--|-------------|--|----------------|---------------|----------|--|--|--|--|--|--|
| THRESHOLD LIMIT VALUE  |             |  |                |               |          |  |  |  |  |  |  |
| EFECTS OF OVEREXPOSURE   |             |  |                |               |          |  |  |  |  |  |  |
| DIRECT CONTACT CAN CAUSE BURNS OF SKIN AND EYES, INHALATION OF MIST MAY CAUSE IRRITATION OF MUCOUS |             |  |                |               |          |  |  |  |  |  |  |
| MEMBRANES.   |             |  |                |               |          |  |  |  |  |  |  |
| EMERGENCY AND FIRST AID PROCEDURES   |             |  |                |               |          |  |  |  |  |  |  |
| FLUSH EYES AND SKIN WITH LARGE QUANTITIES OF WATER. FOR INHALATION, REMOVE FROM EXPOSURE.          |             |  |                |               |          |  |  |  |  |  |  |
|  |             |  |                |               |          |  |  |  |  |  |  |
|  |             |  |                |               |          |  |  |  |  |  |  |
| SECTION VI– REACTIVITY DATA  |             |  |                |               |          |  |  |  |  |  |  |
| STABILITY  | UNSTABLE    | <b>E</b>   |                | CONDITIONS T  |          |  |  |  |  |  |  |
|  |             |  |                |               | N/A      |  |  |  |  |  |  |
|  | STABLE      |  | X              |               |          |  |  |  |  |  |  |
| INCOMPATABILITY (Materials to avoid)  ACIDIC MATERIALS   |             |  |                |               |          |  |  |  |  |  |  |
| HAZARDOUS DECOMPOSITION PRODUCTS   |             |  |                |               |          |  |  |  |  |  |  |
| HAZARDOUS POLYMERIZATION   | MAY OCCU    | JR   |                | CONDITIONS T  |          |  |  |  |  |  |  |
|  |             |  |                |               | N/A      |  |  |  |  |  |  |
|  | WILL NOT OC |  | Х              |               |          |  |  |  |  |  |  |
|  |             |  |                |               |          |  |  |  |  |  |  |
|  | 0           | CTION VIII ODII I O                                | D   E          | V BBOOEBUE    | NEO      |  |  |  |  |  |  |
| SECTION VII– SPILL OR LEAK PROCEDURES  |             |  |                |               |          |  |  |  |  |  |  |
| STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED  |             |  |                |               |          |  |  |  |  |  |  |
| FLUSH AREA WITH WATER. NEUTRALIZE WITH WEAK ACETIC ACID OR SODIUM BICARBONATE                      |             |  |                |               |          |  |  |  |  |  |  |
| WASTE DISPOSAL METHOD  |             |  |                |               |          |  |  |  |  |  |  |
|  |             |  |                |               |          |  |  |  |  |  |  |
|  |             |  |                |               |          |  |  |  |  |  |  |
|  | SECTION     | ON VIII- SPECIAL PR                                | OTEC           | TION INFORM   | MATION   |  |  |  |  |  |  |
| DECDIDATORY PROTECTION (Co.  |             | ON VIII- SPECIAL PR                                | COLEC          | TION INFORM   | MATION   |  |  |  |  |  |  |
| RESPIRATORY PROTECTION (Specify type) VENTILATION  |             | LOCAL EXHAUST                                      |                |               | SPECIAL  |  |  |  |  |  |  |
| VENTICATION  |             |  | E VEN          | ΤΙΙ ΑΤΙΟΝ     | OF ECIAL |  |  |  |  |  |  |
|  |             | PROVIDE ADEQUATE VENTILATION  MECHANICAL (General) |                |               | OTHER    |  |  |  |  |  |  |
| PROTECTIVE GLOVES  |             |  | EYE PROTECTION |               |          |  |  |  |  |  |  |
| RUBBER, NEOPRENE, VINYL  |             |  |                | GLES, FACE SH | HIELD    |  |  |  |  |  |  |
| OTHER PROTECTIVE EQUIPMENT   |             |  |                |               |          |  |  |  |  |  |  |
|  |             |  |                |               |          |  |  |  |  |  |  |
| SECTION IX- SPECIAL PRECAUTIONS  |             |  |                |               |          |  |  |  |  |  |  |
| PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING  |             |  |                |               |          |  |  |  |  |  |  |
| AVOID CONTACT WITH EYES AND SKIN - STORE IN COOL, DRY AREA. KEEP CONTAINER CLOSED WHEN NOT IN USE. |             |  |                |               |          |  |  |  |  |  |  |
| OTHER PRECAUTIONS  |             |  |                |               |          |  |  |  |  |  |  |
|  |             |  |                |               |          |  |  |  |  |  |  |

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