

MATERIAL SAFETY DATA SHEET

I. MANUFACTURER

Date Issued: 3/23/90

Reissued: 2/25/92

Reviewed 9/1/06

II. MATERIAL IDENTIFICATION

TRADE NAME (Common Name or Synonym): Aluminum Sheet/Foil

CHEMICAL NAME: Aluminum alloys

FORMULA: Al

III. INGREDIENTS/COMPOSITION/EXPOSURE LIMITS

<u>CHEMICAL</u>	<u>CAS NO.</u>	<u>PERCENT BY WT.</u>	<u>ACGIH TLV (mg/m³)</u>	<u>OSHA PEL (mg/m³)</u>
Aluminum (Al)	7429-90-5	*	10 (metal dust) 5 (fumes)	--
Copper (Cu)	7440-50-8	*		
Aluminum (Al)	7429-90-5	*	0.2 (fumes)	0.1 (fumes)
Iron (Fe)	7439-89-6	*	5 (fumes)	10 (oxide fumes)
Magnesium (mg)	7439-95-4	*	10 (oxide fumes)	15 (oxide fumes)
Manganese (Mn)	7439-96-5	*	5 (dust & compounds) 1 (fumes)	5 (fumes) (ceiling)
Silicon (Si)	7440-21-3	*	10 (total dust)	--
Zinc (Zn)	7440-66-6	*	5 (oxide fumes)	5 (oxide fumes)

REMARKS: STEL FOR Mn is 3 mg/m³ (fumes) and PEL shown is ceiling.

STEL for Zn is 10 mg/m³ (fumes)

*concentrations of these ingredients in the different alloys will vary in accordance with customer specifications and industry standards. None of these ingredients are presently listed in NTP, IARC or OSHA as being carcinogens or potential carcinogens.

IV. PHYSICAL DATA

MATERIAL IS AT NORMAL CONDITIONS

_____ LIQUID X SOLID _____ GAS _____ OTHER

ACIDITY/ALKALINITY: N/A

VAPOR PRESSURE (mmHg): N/A

MELT/FREEZE POINT: 1165 – 1220 Degrees Fahrenheit

SOLUBILITY IN WATER: Insoluble

BOILING POINT: N/A

APPEARANCE/ODOR: Silvery/Odorless

SPECIFIC GRAVITY (water = 1): 2.70 – 2.73

VAPOR DENSITY (AIR = 1): N/A

EVAPORATION RATE (BUTYL ACETATE = 1): N/A

V. **FIRE/EXPLOSION/HEALTH/REACTIVITY/SAFETY SECTION**

HEALTH – Possible Routes of Exposure

Inhalation: Not likely unless machines, welded or re-melted. Then fumes may cause irritation to nose and throat.

Ingestion: Not likely.

Skin Contact & Absorption: Absorption unlikely, but skin contact with hot aluminum (solid aluminum does not change color during heating) could cause burns. Sharp edges can cause cuts.

Eyes: Fumes may cause irritation.

Acute and Chronic Effect on Health: Other than cuts, scratches, burns, eye irritation, no lasting effects on health are known.

FIRE & EXPLOSION

Flash Point: N/A

Flammable Limits: Lower – N/A; Upper – N/A

Extinguishing Media: Non-flammable in solid form.

Special Fire Fighting Procedures: Avoid use of water in fighting fires near molten aluminum.

Unusual Fire & Explosion Hazards: No hazard in solid state. Dust/chips from grinding/machining may react with water to produce explosive hydrogen gas or dust clouds at level greater than 0.04 oz./cu. ft. may be ignited by spark. Molten aluminum may explode on contact with water and may react violently with rust and other metal oxides (e. g. copper, iron and lead).

REACTIVITY

Stability: Unstable _____ Stable YES

Conditions to Avoid: See Fire & Explosion Section

Incompatibility (Materials to Avoid): Strong alkalis, strong acids, halogens, and oxidizing agents and certain halogenated hydrocarbons.

Hazardous Decomposition Products: Hydrogen – when aluminum contacts acids and alkalis or water when in chip form.

Hazardous Polymerization: May Occur _____ Will Not Occur X

Conditions to Avoid: N/A

VI. ENVIRONMENTAL

Spill or Leak Procedures: N/A

Waste Disposal Method: Re-melt clean, dry scrap – if necessary to dispose of, act in accordance with all applicable Federal, State and local waste regulations.

Chemicals contained regulated under Section 313 of SARA Title III and 40 CFR 372 in amounts equal to or exceeding: (1) 9.1% for substance meeting OSHA definition of a carcinogen; or (2) 1.0% for all other 313 listed ingredients:

<u>Alloy</u>	<u>313 Listed Chemical</u>	<u>CAS Number</u>	<u>Percentage By Weight</u>
1235	Aluminum	7429-90-5	99.35 Minimum
1200	Aluminum	7429-90-5	99.0 Minimum
1100	Aluminum	7429-90-5	99.0 Minimum
1145	Aluminum	7429-90-5	99.45 Minimum
1350	Aluminum	7429-90-5	99.5 Minimum
3003	Aluminum	7429-90-5	96 - 99
	Manganese	7439-96-5	1.0 - 1.5
1060	Aluminum	4729-90-5	99.60 Minimum
7072	Aluminum	7429-90-5	97 - 98 Minimum
	Zinc	7440-66-6	0.8 - 1.3
8111	Zinc		98.00 Minimum

VII. PERSONAL PROTECTIVE EQUIPMENT

Appropriate protective equipment is required when melting, casting, machining, sawing, welding or otherwise processing aluminum alloys. The nature of the processing will determine what equipment is necessary. In handling aluminum sheet, protective gloves are recommended to avoid cuts; eye protection recommended to avoid keeping foreign objects (edges, pieces, dust) out of eyes; and foot protection recommended to prevent injury from heavy coils. Dust/mist respirator suggested when machining or grinding aluminum. Welder's helmet and gloves recommended when welding aluminum.

VIII. EMERGENCY MEDICAL PROCEDURES

For eye contact, flush with running water; obtain medical attention if irritation persists. Remove to fresh air if fumes cause irritation.

If cuts incurred during handling, use standard first aid for cuts/scratches.

If burns suffered from touching hot aluminum or molten aluminum, use standard first aid for burns and seek medical attention.

IX. ADDITIONAL INFORMATION

The welding of aluminum alloys may generate carbon dioxide, carbon monoxide, ozone and nitrogen oxides. Therefore, ensure adequate ventilation including powered exhaust if necessary to remove fumes from work area. Water and other forms of contamination or aluminum are known to cause explosions in melting operations. Avoid storing aluminum sheet and aluminum foil in wet areas or those with high humidity to prevent corrosion and, in vicinity of alkalis, acids, halogens, oxidizing agents and certain halogenated hydrocarbons, to prevent chemical attack. Aluminum sheet and aluminum foil do not change color on being heated; so do not touch metal suspected of being hot.

The information in this MSDS is given in good faith from thought-to-be reliable sources; however, no warranty, expressed or implied, can be made.

DENNY WHOLESALE SERVICES

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Print date: 31-March-2004

***** MATERIAL SAFETY DATA SHEET *****

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

PRODUCT NAME

Manufacturer

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL FAMILY	Polychloroprene Latex	CAS NUMBER	CONCENTRATION (%)
COMPONENT			
NONE HAZARDOUS			

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

**CAUTION.
EYE IRRITANT.**

Off-white Liquid Pungent Ammonia odor

EYE	Will cause eye irritation.
SKIN CONTACT	Repeated or prolonged skin contact may result in mild irritation.
INHALATION	Vapor or aerosol, if generated, can cause irritation of the eyes, nose and respiratory tract.
INGESTION	Ingestion may cause irritation of the gastrointestinal tract.

4. FIRST-AID MEASURES

EYE	Immediately irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 10 minutes. If symptoms develop, obtain medical attention.
SKIN CONTACT	Wash skin with soap and water. If symptoms develop, obtain medical attention.
INHALATION	Remove to fresh air. Get medical attention if irritation persists.
INGESTION	Treat symptomatically and supportively. Get medical attention. DO NOT attempt to give anything by mouth to an unconscious person.

5. FIREFIGHTING MEASURES

AUTOIGNITION	Not available
FLASH POINT	Not applicable
EXTINGUISHING MEDIA	CO ₂ ; Dry Chemical; Foam
SPECIAL FIREFIGHTING PROCEDURES	Not Applicable
FIRE & EXPLOSION HAZARDS	Low fire hazard.
LOWER EXPLOSION LIMIT (%)	Not applicable
UPPER EXPLOSION LIMIT (%)	Not applicable
FLAMMABILITY HAZARD CLASS	0 = Insignificant.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES	Absorb spillages onto sand, earth or any suitable absorbent material. Sweep up and shovel into waste drums. Wash the spillage area with water. Washings must be prevented from entering surface water drains. Disposal should be in accordance with local, state or national legislation.
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For safety and environmental precautions, please review entire Material Safety Data Sheet for necessary information.

7. HANDLING AND STORAGE

STORAGE TEMPERATURE	40 - 100 °F
HANDLING/STORAGE	Store out of direct sunlight in a dry area. Maximum storage temperature is 100F.
OTHER PRECAUTIONS	Avoid extreme temperatures. Protect from freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION REQUIREMENTS	General.
EYE PROTECTION REQUIREMENTS	Wear safety glasses with side shields.
GLOVE REQUIREMENTS	Gloves are recommended due to possible irritation.
CLOTHING REQUIREMENTS	Standard industrial hygiene procedures should be practiced.
CHANGE/REMOVAL OF CLOTHING	Remove contaminated clothing and launder before reuse.
WASH REQUIREMENTS	Wash before eating, drinking, or using toilet facilities.

RESPIRATOR REQUIREMENTS	No respiratory protection is recommended while working with this material. However, if operating conditions create high vapor or mist concentration, use of an approved respirator is recommended.
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9. PHYSICAL AND CHEMICAL PROPERTIES

PURE SUBSTANCE OR MIXTURE	Mixture
PHYSICAL FORM	Liquid
COLOR	Off-white
ODOR	Pungent Ammonia
ODOR THRESHOLD	Not available
PH AS IS	6.5 - 7
pH IN (1%) SOLUTION	Not applicable
OXIDIZING PROPERTIES	Not applicable
BOILING POINT	> 212 °F
MELTING/FREEZING POINT	< 40 °F
SOLUBILITY IN WATER	Miscible
PARTITION COEFFICIENT (n-octanol/water)	Not applicable
SPECIFIC GRAVITY (WATER=1)	1.0204
BULK DENSITY	8.5 lb/gal
EVAPORATION RATE	1 (Water = 1)
VAPOR PRESSURE (mmHg)	17.5 @ 20°C
VAPOR DENSITY (air = 1)	0.62
VOLATILES	Approximately 67 %
VOLATILE ORGANIC COMPOUNDS	< 0.1 %/wt Estimated to be < 0.008 lb/gal
AUTOIGNITION	Not available
FLASH POINT	Not applicable

10. STABILITY AND REACTIVITY

STABILITY	Stable
REACTIVITY HAZARD CLASS	0 - Stable
HAZARDOUS DECOMPOSITION PRODUCTS	Carbon monoxide, carbon dioxide, chlorine compounds, hydrocarbons of indeterminate nature (depending on conditions).

11. TOXICOLOGICAL INFORMATION

ROUTE OF ENTRY	Eye Contact; Skin Contact
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CHRONIC (LONG TERM) EFFECTS OF EXPOSURE

EFFECTS OF CHRONIC EXPOSURE	The toxicological properties of this product have not been fully evaluated. Use of good industrial hygiene practices is required. Avoid direct contact with skin or eyes. Do not ingest or inhale.
TARGET ORGANS	Eyes
CARCINOGEN	No.

12. ECOLOGICAL INFORMATION

POTENTIAL TO BIOACCUMULATE	Unknown.
AQUATIC TOXICITY	None Established

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS	Disposal should be in accordance with local, state or national legislation.
EMPTY CONTAINER WARNINGS	Empty containers may contain product residue; follow MSDS and label warnings even after they have been emptied.

14. TRANSPORTATION INFORMATION

This section provided for general information only.

FOR NON-BULK SHIPMENTS.

FOR MORE COMPLETE TRANSPORTATION REGULATORY INFORMATION PLEASE REFER TO THE SHIPPING DOCUMENTS ACCOMPANYING THE SHIPMENT OF THIS PRODUCT.

DOT CLASSIFICATION	Not applicable.
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The information provided herein may not include the impact of additional regulatory requirements (eg, for materials meeting the definition of a hazardous waste under RCRA, hazardous substances under CERCLA, and/of marine pollutants under CWA or other similar federal, state or local laws) or any associated exceptions or exemptions under regulations applicable to the transport of this material.

15. REGULATORY INFORMATION**USA****TSCA**

This product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U.S.C. 2601 et. seq.

SARA/TITLE III**CAS NUMBER****CONCENTRATION (%)**

Contains no substances at or above the reporting threshold under Section 313.

CALIFORNIA PROPOSITION 65

WARNING: This product contains the following chemicals that are known to the State of California to cause cancer, birth defects or other reproductive harm.

Unless a concentration is specified in Section 2 of the MSDS, the below chemical/s are present in trace amounts.

COMPONENT**CAS NUMBER**

Chloroprene

126-99-8

Toluene	108-88-3
1,3-Butadiene	106-99-0
o-Phenylphenate, sodium	132-27-4

16. OTHER INFORMATION

MSDS DATE
FOR INFORMATION CONTACT:

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ADDITIONAL INFORMATION: The informa
product(s) alone and are not combined with oth
other reliable sources and are believed to be acc
responsibility before using any product to verif
whether the product is suitable for their purpose

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