

pg. 1 13690-
13730



HYGLOSS PRODUCTS, INC.

P.O. BOX 141 • 55 HAUL ROAD • WAYNE, NJ 07474-0141
TEL: (201) 628-1707 • FAX: (201) 628-1704

"YOUR SOURCE FOR QUALITY ARTS & CRAFTS PRODUCTS"

January 1994

Please note that the MSDS sheets for the Nitrocellulose Lacquer - referred to by the manufacturer as: Gravure "C" Foil N/C ext. prime, is for that material in the liquid and highly concentrated state.

After being applied to the foil, and with all of the solvents (ie. ethanol, methanol, esopropyl acetate, toluene, methyl ether) having been removed in the manufacturing process, the remaining coating meets all requirements for contact with people, food and the color will stay on during normal handling.

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SECTION I - PRODUCT IDENTIFICATION

Manufacturer: PACKAGING INK DIVISION Information Phone: 708-496-3600
 INX INTERNATIONAL INK CO. Emergency Phone: (913) 324-1252
 5001 SOUTH MASON AVENUE
 CHICAGO IL 606381 Hazard Ratings: Health - 2
 Product Class: ! none -> extreme Fire - 3
 Trade Name : GRAVURE "C" FOIL N/C EXT.PRIME: 0 ---> 4 Reactivity - 0
 Product Code : GV-9240
 C.A.S. Number: MIXTURE Personal Protection - G
 Prepared By : Michael A. Piotrowski
 Title : Regulatory Specialist
 D.O.T. Hazard Class : 3 UN #: UN1210, II
 Proper Shipping Name: INK, PRINTERS, FLAMMABLE,
 Technical Name:

SECTION II - HAZARDOUS INGREDIENTS

Ingredients	CAS #	Weight %	Exposure Limits		VP mm HG
			ACGIH/TLV	OSHA/PEL	
ETHANOL	64-17-5	23.24	1000ppm	1000 ppm	44 @ 68F
METHANOL	67-56-1	3.91	200 ppm STEL = 250 ppm	200 ppm 250 ppm	96 @ 68F
ISOPROPYL ACETATE	108-21-4	24.50	250 ppm STEL = 310 ppm	250 ppm 310 ppm	47.5 @ 68F
TOLUENE	108-68-3	8.30	100 ppm STEL = 150 ppm	100 ppm 150 ppm	22 @ 68F
PROPYLENE GLYCOL METHYL ETHER	107-98-2	4.85	100 ppm STEL = 150 ppm	100 ppm 150 ppm	10.9 @ 77F
NITROCELLULOSE RESIN	9004-70-0	20.23	N.E.	N.E.	N/AP
ISOPROPANOL	67-63-0	8.67	400 ppm STEL = 500 ppm	400 ppm 500 ppm	32.4 @ 68F

*** ALL Ingredients in this product are listed in the T.S.C.A. Inventory.

N.E. - Not Established

SECTION III - PHYSICAL DATA

Boiling Range: 147 - 257 Deg. F Vapor Density: Heavier than Air.
 Evap. Rate: 2.0 x n-Butyl Acetate Liquid Density: Lighter than Water.
 Volatiles vol % 84.8 Wgt% 73.8 Wgt per gallon: 7.90 Pounds.
 Spec. Gravity: 0.94838
 Appearance: CLEAR AMBER LIQUID

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PACKAGING INK DIVISION

Material Safety Data Sheet for: GRAVURE "C" FOIL N/C EXT.PRIME(GV-9240)

 SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class: IB Flash Point: 35 F TCC LEL: 1.10% UEL: 36.00%

-EXTINGUISHING MEDIA:

Regular Foam - Dry Chemical - Carbon Dioxide

-SPECIAL FIREFIGHTING PROCEDURES:

Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.

-UNUSUAL FIRE & EXPLOSION HAZARDS:

Decomposition of product may form toxic materials: Carbon Dioxide and Carbon Monoxide, various hydrocarbons, etc.

 SECTION V - HEALTH HAZARD DATA

-PERMISSIBLE EXPOSURE LEVEL:**-EFFECTS OF OVEREXPOSURE:**

EYES: Can cause moderate irritation, redness and tearing.

SKIN: Prolonged or repeated contact can cause moderate irritations, defatting, dermatitis.

INHALATION: Excess inhalation of vapors may cause nasal and respiratory irritation, central nervous system effects including dizziness, weakness, fatigue, nausea, headache and possible unconsciousness, and even death.

INGESTION: Can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

-FIRST AID:

EYES: Flush with large amounts of water, lifting upper and lower lids occasionally for 15 minutes. Get medical attention.

SKIN: Thoroughly wash exposed area with soap and water. Remove contaminated clothing and wash thoroughly before reuse.

INHALATION: Remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped give artificial respiration. Keep person warm, quiet and get medical attention.

INGESTION: Never give anything by mouth to a unconscious person. DO NOT induce vomiting. Get medical attention immediately.

 SECTION VI - REACTIVITY DATA

STABILITY: [] Unstable [x] Stable

HAZARDOUS POLYMERIZATION: [] May occur [x] Will not occur

-INCOMPATIBILITY**-CONDITIONS TO AVOID:**

Avoid contact with strong oxidizing agents.

SECTION VI - REACTIVITY DATA (cont.)

-HAZARDOUS DECOMPOSITION PRODUCTS:

SECTION VII - SPILL OR LEAK PROCEDURES

-STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Eliminate all ignition sources (Flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at its source, dike area of spill to prevent spreading, pump liquid into salvage drum, remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers. Do not store in confined spaces.

-WASTE DISPOSAL METHOD:

Dispose of in accordance with Local, State and Federal regulations. Destroy by liquid incineration.

SECTION VIII - SPECIAL PROTECTION INFORMATION:

-RESPIRATORY PROTECTION:

If workplace exposure limit(s) of ink product or any component is exceeded (See Section II), a NIOSH/MSHA approved air supplied respirator is advised in the absence of proper environmental control. Engineering or administrative controls should be implemented to reduce exposure.

-VENTILATION:

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

-PROTECTIVE GLOVES:

Use rubber or chemical resistant gloves when handling ink product.

-EYE PROTECTION:

Chemical splash goggles are advised. Safety glasses with side-shields can also be used.

-OTHER PROTECTIVE EQUIPMENT:

To prevent prolonged skin contact, wear impervious clothing and boots.

SECTION IX - SPECIAL PRECAUTIONS

-PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, static discharge, or other ignition sources at a location distant from material handling point. All five gallon containers and larger metal containers including totes should be grounded and/or bonded when materials are transferred. Never use welding or cutting torch on or near container (even empty) because product (even just residue) can ignite explosively.

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PACKAGING INK DIVISION

Material Safety Data Sheet for: GRAVURE "C" FOIL N/C EXT.PRIME(GV-9240)

SECTION IX - SPECIAL PRECAUTIONS (cont.)

-OTHER PRECAUTIONS:

Consumption of food and beverage should be avoided in work areas where hydrocarbons are present. Always wash hands and face with soap and water before eating, drinking or smoking.

SECTION X - ADDITIONAL REGULATORY INFORMATION

-SARA TITLE III SECTION 313:

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right To Know Act of 1986 and of 40 CFR 372:

CAS#	Chemical Name	Percent by Weight
67-56-1	METHANOL	3.91
108-88-3	TOLUENE	8.3

-PROP 65 (CARCINOGEN):

WARNING: This product contains a chemical known to the state of California to cause cancer.

CAS#	Chemical Name
	None

-PROP 65 (TETRATOGENIC):

WARNING: This product contains a chemical known to the state of California to cause birth defects or other reproductive harm.

CAS#	Chemical Name
108-83-3	TOLUENE

-PROP 65 (BOTH CARCINOGEN AND TETRATOGENIC):

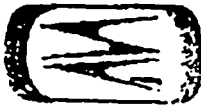
WARNING: This product may contain a chemical known to the state of California to cause cancer or birth defects or other reproductive harm.

CAS#	Chemical Name
	None

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CONTAINER CORPORATION OF AMERICA

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

Paper Mill Division

P.O. BOX 700
BREWTON, AL 36427
TELEPHONE: 205/667-3871

September 29, 1992

By copy of this letter and as an authorized representative of JSC/CCA, I certify that JSC/CCA does not and will not supply any materials, parts or assemblies that are manufactured with Class I CFCs (chlorofluorocarbons), Halons, carbon tetrachloride, or 1,1,1-trichloroethane, or Class II HCFC (hydrochlorofluorocarbons) regulated substances as specified by the 1990 Clean Air Act Amendments.


B. G. Bardwell
Technical Director

BRUNN



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CONTAINER CORPORATION OF AMERICA

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

Paper Mill Division
P.O. BOX 700
BREWTON, AL 36427
TELEPHONE: 205/867-3871

September 25, 1992

**SUBJECT: BREWTON PAPERBOARD—CERTIFICATION OF
COMPLIANCE WITH CONEG REQUIREMENTS**

Dear Mr.

In response to your request, no lead, cadmium, mercury, antimony, arsenic, barium or hexavalent chromium is intentionally added to the paperboard produced at the CCA Brewton Mill and the combined level of these metals in the Brewton board when it leaves our mill would be less than 100 parts per million.

Please contact me if you need any additional information.

Very truly yours,

B. G. Bardwell
Technical Director

bk

SECTION 7: SPILL, LEAK AND DISPOSAL PROCEDURES

If material is released or spilled, dam up to limit spreading. Mop up or absorb on inert material and place in containers. If spill occurs in enclosed area, ventilate. Polymer may be separated from water by the procedure indicated below.

Note: Spilled emulsion is very slippery. Use care to avoid falls. Latex will leave a film on drying. Remove saturated clothing and wash contacted skin areas with soap and water.

DISPOSAL:

For small spills (probably less than 100 gallons), dilute 50 to 100 fold with water. Wash into industrial sewer. (Warning. Consult local sewer authority before discharging.)

For large quantities, place in settling pond and add ferric chloride and lime. Decant water. Dispose of solids in landfill. Emulsion can be incinerated directly under appropriate conditions.

Care: The products will impart a white milky color to water. When the water is agitated or is turbulent, foaming can result. As supplied or diluted, product material (foam included) when splashed on automobiles or other personal property is difficult to remove if allowed to dry.

All federal, state and local regulations regarding health and pollution should be followed when disposing of contaminated water or recovered material.

SECTION 8: SPECIAL PROTECTION INFORMATION

Ventilation: Provide sufficient ventilation to maintain airborne concentrations below the exposure guideline.

Eye Protection: Use safety goggles when splash potential exists.

Hand Protection: Rubber protective gloves are recommended.

Other: See Sections 4 and 5 for specific health and fire hazard information and protective measures.

SECTION 9: SPECIAL PRECAUTIONS AND HANDLING INFORMATION

Normal cleanliness should be observed. Store in a cool place, avoid freezing.

If headspace ventilation is required, use humidified air to reduce skin formation on the emulsion surface.

SECTION 10: ADDITIONAL INFORMATION

The products are not restricted articles according to Department of Transportation and International Air Transport Association regulations.

All components are included in the EPA Toxic Substance Control Act Chemical Substance Inventory.

H.M.I.S.	HEALTH:	1
	FLAMMABILITY:	0
	REACTIVITY:	0

These ratings should be used only as part of H.M.I.S. program.

EPA SARA Title III Hazard Class: None

OSHA HCS Hazard Class: non-OSHA hazardous (29 CFR 1910.1200)

EPA SARA Title III Section 313 (40 CFR 372) Toxic Chemicals present in quantities greater than the "de minimis" level are: None.

Canadian WHMIS Controlled Products classification: not a controlled product.

SECTION 5: HEALTH HAZARD INFORMATION / FIRST AID**Routes of Entry:**

- Ingestion
- Skin absorption
- Inhalation

Exposure Standards:

- The principal volatile component is water. Minor volatile components are identified in Section 2, Ingredients. Minor components will migrate from the emulsion and establish an equilibrium condition between the headspace of the storage container and the liquid emulsion. Levels in excess of the TLV's or PEL's can accumulate in non-vented headspaces above stored emulsion. Care must be exercised to vent the headspace of storage tanks with humidified air. Drums should be opened in a well ventilated space.
- Under normal conditions of use in a well ventilated space, the concentration of minor components in the workplace will not exceed the TLV or PEL and are not subject to the hazard warning (label) requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Signs and Symptoms of Exposure:

- Contact with the eyes causes irritation and redness which is transient.
- Repeated and/or prolonged contact with the skin may cause skin irritation and/or dermatitis.
- Inhalation of vapors may cause irritation of the nasal passages.
- Ingestion may cause irritation or discomfort in the stomach.

Medical Conditions Generally Aggravated By Exposure:

- May provoke asthmatic response in persons with asthma who are sensitive to airway irritants.

FIRST AID:**Eye Contact:**

Immediately flush eyes gently with copious quantities of water for a minimum of 15 minutes. Use fingers to separate eyelids to assure that eyes are being irrigated. Call a physician.

Skin Contact:

Washed exposed skin with soap and water.

Ingestion:

Small ingested amounts are not expected to produce adverse health effects. Larger quantities (up to several ounces) should be removed from the stomach by induced vomiting or aspiration. No adverse health effects are anticipated. Call a physician.

SECTION 6: REACTIVITY DATA

Stability: Products are stable in most environments. Coagulation may occur following freezing, thawing or boiling.

Incompatibility (Specific Materials to Avoid): Products will react violently with any water sensitive material such as sulfuric acid, alkali metals such as sodium and calcium or metal hydrides.

Hazardous Decomposition Products: No Data

Hazardous Polymerization: Will not occur

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CORK INDUSTRIES, INC.

500 Kaiser Drive • Folcroft, PA 19032 • (215) 522-9550

MATERIAL SAFETY DATA SHEET**SECTION 1: PRODUCT IDENTIFICATION**

Material Name (Trade Name): PP-3100
 Manufacturer: Cork Industries, Inc. Folcroft, Pa. 19032
 Chemical Name: Aqueous Styrene-Acrylic Emulsion
 Chemical Family: Polymer Dispersion
 Emergency Telephone Numbers
 1-215-622-9550

Sales & Product Info Phone
 1-215-622-9550

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>Case Number</u>	<u>Weight %</u>
Styrene / Acrylic Emulsion Polymer	Proprietary	30 - 60
Water	7732-18-5	30 - 60
Polypropylene Glycol	29-434-03-5	1 - 4
Ammonium Hydroxide (Ca., N.J., Ma.)	1336-21-8	1 - 3
Wax	9002-88-4	2 - 5

The specific chemical identity of any substance not identified with a chemical abstract number is being held as a trade secret.

SECTION 3: PHYSICAL DATA

Boiling Point	Approx. 212° F.
Melting Point	Not applicable
Specific Gravity	1.05 (water -1)
Solubility in Water	Miscible
Vapor Pressure	Of Water
Vapor Density	Of Water Vapor
% Volatiles	35 - 55
pH	7.2 - 9.0
Appearance	Translucent
Odor	Sweet, Ammonical

SECTION 4: FIRE AND EXPLOSION DATA

Flash Point:	None
Flammable Limits:	Not applicable
Extinguishing Media:	Water, Carbon Dioxide

Special Fire Fighting Procedures:

When solids in an emulsion burn, water (H₂O), carbon dioxide (CO₂), nitrogen oxides (NO_x) (if a nitrogen component is in polymer or additives) and smoke is produced. Pyrolysis products may include acetic acid, acrolein, acetaldehyde and other monomer fragments from depolymerization.

Fire Explosion Hazard:

There are no unusual fire or explosion hazards.

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DATE:

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SPECIAL COMMENTS:

NON-HAZARDOUS INGREDIENTS WITHHELD UNDER PA TRADE SECRET STATUS

EPA SARA TITLE III HAZARD CLASS:

NOT HAZARDOUS PER 29 CFR1910.1200

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF EPA SARA TITLE III SECTION 313 (40CFR372):

CHEMICAL	CAS NUMBER	WEIGHT PERCENT
NONE		

THE INFORMATION SUPPLIED HEREIN RELATES TO THE PRODUCT NAMED AND IS BASED UPON INFORMATION HENKEL ADHESIVES BELIEVES TO BE ACCURATE. NO WARRANTY, EXPRESS OR IMPLIED, IS INTENDED. THIS INFORMATION IS OFFERED SOLELY FOR YOUR CONSIDERATION AND INTERPRETATION.

PREPARED BY: W.R. LEACH

DATE: 12/19/91

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MATERIAL SAFETY DATA SHEET

PRIMARY ROUTES OF EXPOSURE: NO ACUTE SYMPTOMS KNOWN OR EXPECTED
 EYE CONTACT:
 MAY CAUSE MILD, TEMPORARY IRRITATION IF SPLASHED IN EYES
 SKIN CONTACT:
 MAY CAUSE TEMPORARY RASH OR IRRITATION IF LEFT LONG ON SKIN
 INHALATION: NO KNOWN HARMFUL EFFECTS
 INGESTION: NO KNOWN HARMFUL EFFECTS
 CHRONIC EFFECTS OF EXPOSURE:
 NO CHRONIC EFFECTS HAVE BEEN REPORTED

***** FIRST AID *****

EYE FIRST AID: FLUSH IMMEDIATELY WITH LARGE AMOUNTS OF WATER
 SKIN FIRST AID: WASH WITH SOAP AND WATER
 INHALATION FIRST AID: REMOVE PATIENT TO FRESH AIR
 INGESTION FIRST AID: NO SPECIFIC TREATMENT. DO NOT INGEST

***** REACTIVITY DATA *****

STABLE OR UNSTABLE: STABLE
 CONDITIONS TO AVOID: NONE
 INCOMPATIBILITY: NONE KNOWN.
 HAZARDOUS DECOMPOSITION PRODUCTS:
 DRIED FILM MAY GIVE OFF CO AND CO2 WHEN BURNED
 HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
 CONDITIONS TO AVOID: NONE

***** SPILL AND DISPOSAL PROCEDURES *****

SPILL PROCEDURES:
 CONTAIN SPILL WITH ABSORBENT MATERIAL. PICK UP AS MUCH AS POSSIBLE, WASH DOWN REMAINDER WITH WATER
 DISPOSAL PROCEDURES:
 SANITARY LANDFILL - CONSULT LOCAL ORDINANCES

***** PROTECTIVE EQUIPMENT *****

VENTILATION: USE WITH ADEQUATE VENTILATION
 RESPIRATORY PROTECTION: NOT GENERALLY NEEDED
 PROTECTIVE CLOTHING: RUBBER GLOVES PREVENT SKIN IRRITATION
 EYE PROTECTION: GOGGLES SUGGESTED WHEN TRANSFERRING ADHESIVE TO GUARD AGAINST SPLASHING

***** SPECIAL PRECAUTIONS *****

HANDLING & STORAGE PRECAUTIONS:
 DO NOT MIX WITH OTHER ADHESIVES - DO NOT FREEZE
 KEEP CONTAINERS COVERED TO PREVENT CONTAMINATION

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HENKEL ADHESIVES CORP/PA
1346 GASKET DRIVE
ELGIN IL 60120
708-468-9200

INVOICE#:
DATE: 01/31/93
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24-HOUR EMERGENCY PHONE NO: CHEMTREC, 800/424-9300

MATERIAL SAFETY DATA SHEET

CHEMICAL NAME: NONE TRADE NAME: HENKEL# LM-188

CHEMICAL FAMILY: NAT. & SYN. POLYMER EMULSION FORMULA: MIXTURE

***** HAZARDOUS COMPONENTS *****
NONE

***** PHYSICAL PROPERTIES DATA *****

BOILING POINT: APPROXIMATELY 212 F
SPECIFIC GRAVITY: 1.02
VAPOR PRESSURE (mm HG AT 20 DEG C): SAME AS WATER
PERCENT VOLATILE: 68%
VAPOR DENSITY: SAME AS WATER VAPOR
EVAPORATION RATE: SAME AS WATER
SOLUBILITY IN WATER: COMPLETELY DISPERSIBLE WHEN WET.
PH: 6.5
APPEARANCE AND ODOR: WHITE LIQUID, MILD AMMONIACAL ODOR.

***** FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT & METHOD: NONE
FLAMMABLE LIMITS: N/A
LEL: N/A
UEL: N/A
EXTINGUISHING MEDIA:
DRIED FILM MAY BURN - USE A-B-C EXTINGUISHER.
SPECIAL FIRE FIGHTING PROCEDURES: NONE
UNUSUAL FIRE & EXPLOSION HAZARDS: NONE

***** HEALTH HAZARD INFORMATION *****

THRESHOLD LIMIT VALUE: NOT KNOWN

The Henkel logo is enclosed in an oval shape.

LM-188 - LAMINATING

DESCRIPTION AND USE

A protein/synthetic resin latex adhesive for laminating foil to chip, paper, groundwood, SBS and a wide variety of coated board. Product features excellent wet tack and mechanical stability. Laminated structure exhibit outstanding heat, water, and service life properties.

TYPICAL PROPERTIES

Viscosity:	1800 cps
% Solids:	32%
Density:	8.5 lbs./gallon
pH:	6.5
Appearance:	White liquid, dries clear

HANDLING AND APPLICATION


- Supplied ready for use.
- Clean-up with water while adhesive is moist.
- Meets FDA requirements (21 CFR 175.105.)

PRECAUTIONS

- Do not mix with other adhesives.
- Rotate stock, use oldest material first.
- Keep covered to prevent moisture loss and contamination.
- Keep product from freezing.

10V13DM

Our information and recommendations do not constitute a warranty or representation for which we assume legal responsibility. They are offered solely for your consideration, investigation and verification. All sales, without exception, are made on condition that HENKEL Adhesives Corporation is not responsible for any incidental consequential or other damages resulting from the use of its products.



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SECTION VI CORROSIVITY AND REACTIVITY DATA			
STABILITY	UNSTABLE	STABLE	X
POLYMERIZATION MAY OCCUR			
WILL NOT OCCUR			
INCOMPATIBILITY MATERIALS TO AVOID: Contact with acids (HCl, H ₂ SO ₄), KOH or NaOH results in evolution of hydrogen. Is also reactive with halogens, oxidizing agents and certain halogenated hydrocarbons.			
DECOMPOSITION PRODUCTS: Produces hydrogen in reaction with acids and oxidation - Forms oxides and nitrides when heated above melting point. Dependent on alloy involved, can liberate small quantities of oxides of Fe, Cu, Ni, Mn, Cr, Zn, Ti or Be.			
CONDITIONS TO BE AVOIDED: When finely divided, aluminum dusts can burn or explode when ignited. Do not allow molten metal to come into contact with water or wet materials. Use approved dust collection methods and avoid generation of dust clouds and/or accumulation of dust/sand on during finishing processes.			

SECTION VII STORAGE, HANDLING, AND USE PROCEDURES	
NORMAL STORAGE AND HANDLING: Store finished product or scrap material in a dry, moisture free area. Keep ducts and borders away from sources of heat, ignition or moisture. Store powder/dust in a dry, pressure vented metal container.	
NORMAL USE: See above. Wear approved personal protective equipment when handling in molten state (flame retardant clothing, face and eye protection, gloves).	
STEPS TO BE TAKEN IN CASE OF LEAKS OR SPILLS: Clean up spills of powder/dust with non-sparking scoops and brushes. Molten metal should be damped with DRY sand or grit flux until solidified.	
WASTE DISPOSAL METHOD: in accordance with local, State and Federal regulations.	

SECTION VIII PERSONAL PROTECTION INFORMATION	
RESPIRATORY PROTECTION (SPECIFY TYPE): HIGH EFFICIENCY TC21 (dust) and TC23 (fumes)	
VENTILATION	LOCAL: Comply with local, State and Federal regulations, if TLV is exceeded. GENERAL: Comply with local, State and Federal regulations, if TLV is exceeded. OTHER:
PROTECTIVE GLOVES: Appropriate for task. Keep resistant when molten or heated.	
EYE PROTECTION: Safety glasses with side shield and face mask if molten.	
OTHER EQUIPMENT: Flame retardant clothing should be used when handling in molten state. N/A	
MEASURES TO BE TAKEN DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT THAT HAS BEEN IN CONTACT WITH THIS MATERIAL: N/A	

SECTION IX SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE: See Section VII above.	
OTHER PRECAUTIONS: Aluminum does not undergo a color change when heated. Wear approved gloves and clothing during handling.	

** NAIF = NO APPLICABLE INFORMATION FOUND

*** N/A = NOT APPLICABLE

The information disclosed is believed to be reliable. Since the use of the product described herein is unknown, the discloser assumes no liability in regard to same. No warranty express or implied is made in connection with the information provided herein or the use of the product in any form for any purpose. No license, patent or implied, is granted in regard to the use process or practices disclosed.

MATERIAL SAFETY DATA SHEET

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SECTION I NAME AND PRODUCT							
MANUFACTURER'S NAME CONSOLIDATED ALUMINUM CORPORATION					CONTACT: Safety Dept. CONSOLIDATED ALUMINUM Hannibal, OH		
ADDRESS (Street, City, State, Zip Code) 11960 WESTLINE INDUSTRIAL DR., ST. LOUIS, MO 63146					EMERGENCY TELEPHONE NUMBER (614) 483-1341		
TRADE NAME, COMMON NAME OR SPECIFICATION Sheet and Plate Aluminum Alloy # 1235, 1250, 1270, 1285, 1350					EFFECTIVE DATE: March 23, 1989		
CHEMICAL FAMILY OR PRODUCT TYPE Aluminum Alloy							
SECTION II COMPOSITION							
CHEMICAL NAME	%	COMMON NAME	REG. (Y/N)	CAS #	OSHA PERMISSIVE EXPOSURE LIMIT	ACGIH TLV	CARC. (Y/N)
Aluminum	<99.51	Aluminum	Y	7429-90-5	10 mg/M3	10 mg/M3	N
Silicon	< 0.35	Silicon	Y	7440-21-3	10 mg/M3	10 mg/M3	N
Iron	< 0.60	Iron (as fume)	Y	1309-37-1	10 mg/M3	5 mg/M3	N
Copper	< 0.10	Copper (as fume)	Y	7440-50-8	0.1 mg/M3	0.2 mg/M3	N
Manganese	< 0.05	Manganese (as fume)	Y	7439-96-3	5 mg/M3	1 mg/M3	N
Magnesium	< 0.05	Magnesium	Y	1309-48-4	15 mg/M3	10 mg/M3	N
Chromium	< 0.01	Chromium	Y	7440-47-3	1 mg/M3	0.5 mg/M3	N
Zinc	< 0.10	Zinc (as fume)	Y	7440-66-6	5 mg/M3	10 mg/M3	N
Titanium	< 0.03	Titanium	Y	13463-67-7	15 mg/M3	10 mg/M3	N
Others, Total	< 0.15						
*Regulated as per lists: OSHA 29CFR 1910, subpart Z, ACGIH HEB/NIP; & IARC.							
**Chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and 40 CFR 372. This information must be included in all MSDS's that are copied and distributed for this material.							
SECTION III PHYSICAL AND CHEMICAL DATA							
BOILING POINT	3713 F	MELTING POINT	1220 F	SPECIFIC GRAVITY	2.7		
VAPOR PRESSURE	less @ 2343 F	PERCENT VOLATILE BY VOL	N/A	VAPOR DENSITY	N/A		
EVAPORATION RATE	N/A	SOLUBILITY IN WATER	Insoluble	SOLUBILITY IN ALCOHOL	Insoluble		
SOLUBILITY IN OTHER SOLVENT HCL, H2SO4, HNO3 (con.), Acetic Acid				APPEARANCE AND ODOR Silvery, Ductile Metal, No odor			
SECTION IV FIRE AND EXPLOSION HAZARD DATA							
FLASH POINT:	N/A	METHOD USED	N/A	FLAMMABLE LIMITS	LEL 0.04 oz/FT ³ DEL		
EXTINGUISHING MEDIA: Dry Powder or DRY clean sand							
SPECIAL FIRE FIGHTING PROCEDURES: NEVER use water, CO2 or Halon on molten aluminum.							
EXPLOSION POTENTIAL: Powders/dusts <0/14 have LEL @ 40-50 mg/liter of air (>0.04 oz/FT ³). Ultra-fine can be ignited with a 0.05 joule spark. Never allow water or moisture to become entrapped by molten aluminum.							
SECTION V HEALTH, FIRST AID AND MEDICAL DATA							
PRIMARY ROUTE(S) OF EXPOSURE	ACUTE AND CHRONIC HEALTH EFFECTS AND EFFECTS OF OVEREXPOSURE				FIRST AID AND MEDICAL INFORMATION		
INHALATION	Massive quantities of respirable dust may result in pulmonary fibrosis.				Wear approved respirator protection.		
INGESTION	None demonstrated.						
SKIN Contact & Absorption	Is not absorbed. Contact with hot/molten metal will result in burns.				Seek medical attention for burns.		
EYE	Dust, chips & molten metal can result in damage to unprotected eyes.				Flush eyes with water for 15 min. Seek medical attention.		
Other Potential Health Risks	Ozone and oxides of nitrogen may be produced during electric welding of aluminum.				If over-exposure is suspected, seek medical attention.		