



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: PFL AQUALINE WS601;609;1206;1208;3005

MANUFACTURER'S NAME: ALPHA METALS, INC
ADDRESS: 600 ROUTE 440
JERSEY CITY, NJ 07304
TRANSPORT EMERGENCY #: CHEMTREC: 1-800-424-9300
BUSINESS PHONE: 1-201-434-6778

2. INGREDIENT AND EXPOSURE LIMIT INFORMATION

CHEMICAL NAME	CAS #	% W/W	OSHA PEL - TWA
B. TERPINEOL	138-87-4	20 - 30	NO PEL DATA
DIETHANOLAMINE	111-42-2	1 - 5	2 mg/m3
TRIETHANOLAMINE	102-71-6	1 - 5	5 mg/m3

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: MODERATE EYE IRRITANT.
COMBUSTIBLE AT ELEVATED TEMPERATURES
TOXIC BY INHALATION.
MODERATE GASTROINTESTINAL TRACT IRRITANT.
MODERATE RESPIRATORY TRACT IRRITANT.
CAUSES SKIN IRRITATION

HMIS RATING SYSTEM:
Health: 2 ; Flammability: 4 ; Reactivity: 0 ; Protection: B

NFPA RATING SYSTEM:
DIETHANOLAMINE health-1; flammability-1; reactivity-0
TRIETHANOLAMINE health-2; flammability-1; reactivity-1

ROUTES OF ENTRY: INHALATION; INGESTION; SKIN CONTACT; EYE CONTACT;
ABSORPTION
TARGET ORGANS: EYES; KIDNEYS; LIVER; NERVOUS SYSTEM; RESPIRATORY TRACT;
SKIN

MEDICAL CONDITIONS AGGRAVATED: NO MEDICAL CONDITIONS AFFECTED BY EXPOSURE.
EYE DISEASE; KIDNEY DISEASE; LIVER DISEASE;
RESPIRATORY DISEASE INCLUDING ASTHMA AND
BRONCHITIS; SKIN DISEASE INCLUDING ECZEMA AND
SENSITIZATION

IMMEDIATE (ACUTE) SYMPTOMS OVER-EXPOSURE BY ROUTE OF EXPOSURE:
INHALATION: CAN CAUSE MODERATE RESPIRATORY IRRITATION, DIZZINESS,
WEAKNESS, FATIGUE, NAUSEA AND HEADACHE. MAY CAUSE AN
ALLERGIC REACTION. MAY CAUSE RESPIRATORY TRACT
SENSITIZATION, CHARACTERIZED BY ASTHMA-LIKE SYMPTOMS.



MATERIAL SAFETY DATA SHEET

3. HAZARDS IDENTIFICATION (Cont.)

EYES: CAN CAUSE MODERATE IRRITATION, TEARING AND REDDENING, BUT NOT LIKELY TO PERMANENTLY INJURE EYE TISSUE.

SKIN CONTACT: CAN CAUSE MODERATE SKIN IRRITATION, DEFATTING, AND DERMATITIS. NOT LIKELY TO CAUSE PERMANENT DAMAGE.

SKIN ABSORPTION: NO ABSORPTION HAZARD IN NORMAL INDUSTRIAL USE.

INGESTION: IRRITATING TO MOUTH, THROAT, AND STOMACH. CAN CAUSE ABDOMINAL DISCOMFORT, NAUSEA, VOMITING AND DIARRHEA.

LONG TERM (CHRONIC) HEALTH EFFECTS:

CARCINOGENICITY: NONE OF THE SUBSTANCES HAVE BEEN SHOWN TO CAUSE CANCER IN LONG TERM ANIMAL STUDIES. NOT A CARCINOGEN ACCORDING TO NTP, IARC, OR OSHA.

REPRODUCTION: NO DATA AVAILABLE TO INDICATE PRODUCT OR ANY COMPONENTS PRESENT AT GREATER THAN 0.1% MAY CAUSE BIRTH DEFECTS. WOMEN OF CHILD BEARING AGE SHOULD AVOID EXPOSURE TO LEAD AND ITS INORGANIC COMPOUNDS DUE TO POST-NATAL EFFECTS.

MUTAGENICITY: NO DATA AVAILABLE TO INDICATE PRODUCT OR ANY COMPONENTS PRESENT AT GREATER THAN 0.1% IS MUTAGENIC OR GENOTOXIC.

4. FIRST AID MEASURES

SKIN EXPOSURE: WASH WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND LAUNDRY. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS OR PERSISTS.

EYE EXPOSURE: FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 20 MINUTES RETRACTING EYELIDS OFTEN. TILT THE HEAD TO PREVENT CHEMICAL FROM TRANSFERRING TO THE UNCONTAMINATED EYE. GET IMMEDIATE MEDICAL ATTENTION.

INHALATION: REMOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, HAVE A TRAINED INDIVIDUAL ADMINISTER OXYGEN. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION AND HAVE A TRAINED INDIVIDUAL ADMINISTER OXYGEN. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION: DO NOT INDUCE VOMITING AND SEEK MEDICAL ATTENTION IMMEDIATELY. DRINK TWO GLASSES OF WATER OR MILK TO DILUTE. PROVIDE MEDICAL CARE PROVIDER WITH THIS MSDS.

NOTES TO DOCTOR: NO ADDITIONAL FIRST AID INFORMATION AVAILABLE

5. FIRE FIGHTING MEASURES

FLAMMABILITY SUMMARY: COMBUSTIBLE AT ELEVATED TEMPERATURES

FLASH POINT: 185 deg. C

AUTOIGNITION TEMPERATURE: N/E deg. C

EXPLOSIVE LIMITS % IN AIR: N/E /

EXTINGUISHING MEDIA: USE ALCOHOL RESISTANT FOAM, CARBON DIOXIDE, OR DRY CHEMICAL WHEN FIGHTING FIRES. WATER OR FOAM



MATERIAL SAFETY DATA SHEET

5. FIRE FIGHTING MEASURES (Cont.)

MAY CAUSE FROTHING IF LIQUID IS BURNING BUT IT STILL MAY BE A USEFUL EXTINGUISHING AGENT IF CAREFULLY APPLIED TO THE SURFACE OF THE FIRE. DO NOT DIRECT A STREAM OF WATER INTO THE HOT BURNING LIQUID.

FIRE AND EXPLOSION HAZARDS: MATERIAL MAY BE IGNITED ONLY IF PREHEATED TO TEMPERATURES ABOVE THE HIGH FLASH POINT, FOR EXAMPLE IN A FIRE.

FIRE FIGHTING METHODS: WILL NOT BURN, NO SPECIAL INSTRUCTIONS AVAILABLE. USE METHODS APPROPRIATE FOR SURROUNDING MATERIALS.

USE METHODS FOR THE SURROUNDING FIRE. FLAMMABLE COMPONENT(S) OF THIS MATERIAL MAY BE LIGHTER THAN WATER AND BURN WHILE FLOATING ON THE SURFACE.

HAZARDOUS COMBUSTION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE

6. ACCIDENTAL RELEASE MEASURES

PRECAUTIONS AND EQUIPMENT: EXPOSURE TO THE SPILLED MATERIAL MAY BE IRRITATING OR HARMFUL. FOLLOW PERSONAL PROTECTIVE EQUIPMENT RECOMMENDATIONS FOUND IN SECTION VIII OF THIS MSDS.

METHODS FOR CLEAN-UP: WEAR COMPLETE AND PROPER PERSONAL PROTECTIVE EQUIPMENT FOLLOWING THE RECOMMENDATION OF SECTION VIII GATHER AND STORE IN A SEALED CONTAINER PENDING A WASTE DISPOSAL EVALUATION. DO NOT USE BROOM OR AIR CLEANING ETC.

7. HANDLING AND STORAGE

HANDLING MEASURES: HARMFUL OR IRRITATING MATERIAL. AVOID CONTACTING AND AVOID BREATHING THE MATERIAL. USE ONLY IN A WELL VENTILATED AREA.

AS WITH ALL CHEMICALS, GOOD INDUSTRIAL HYGIENE PRACTICES SHOULD BE FOLLOWED WHEN HANDLING THIS MATERIAL. AVOID CONTACT WITH MATERIAL, AVOID BREATHING DUSTS OR FUMES, USE ONLY IN A WELL VENTILATED AREA. WASH THOROUGHLY AFTER HANDLING; DO NOT GET IN EYES, ON SKIN AND CLOTHING; REMOVE CONTAMINATED CLOTHING AND WASH BEFORE REUSE; USE SPARK-PROOF TOOLS AND EXPLOSION-PROOF EQUIPMENT

STORAGE MEASURES: STORE IN A COOL DRY PLACE. ISOLATE FROM INCOMPATIBLE MATERIALS.

STORE IN A COOL DRY PLACE; STORE IN A TIGHTLY CLOSED CONTAINER; KEEP AWAY FROM SOURCES OF IGNITION



MATERIAL SAFETY DATA SHEET

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

ENGINEERING MEASURES: NO ENGINEERING CONTROLS ARE LIKELY TO BE REQUIRED TO MAINTAIN OPERATOR COMFORT UNDER NORMAL CONDITIONS OF USE.
ENGINEERING CONTROLS MUST BE DESIGNED TO MEET THE OSHA CHEMICAL SPECIFIC STANDARD IN 29 CFR 1910. USE PROCESS ENCLOSURES, LOCAL EXHAUST VENTILATION, OR OTHER ENGINEERING CONTROLS TO CONTROL AIRBORNE LEVELS BELOW RECOMMENDED EXPOSURE LIMITS

RESPIRATORY PROTECTION: NO RESPIRATORY PROTECTION REQUIRED UNDER NORMAL CONDITIONS OF USE.
FOLLOW A RESPIRATORY PROTECTION PROGRAM THAT MEETS 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS WHENEVER WORK PLACE CONDITIONS WARRANT THE USE OF A RESPIRATOR. WEAR A NIOSH APPROVED RESPIRATOR IF ANY EXPOSURE IS POSSIBLE.

EYE PROTECTION: WEAR CHEMICALLY RESISTANT SAFETY GLASSES WITH SIDE SHIELDS WHEN HANDLING THIS PRODUCT. DO NOT WEAR CONTACT LENSES.
WEAR GOGGLES AND A FACE SHIELD

SKIN PROTECTION: NOT NORMALLY CONSIDERED A SKIN HAZARD. WHERE USE CAN RESULT IN SKIN CONTACT, PRACTICE GOOD PERSONAL HYGIENE. WASH HANDS AND OTHER EXPOSED AREAS WITH MILD SOAP AND WATER BEFORE EATING, DRINKING, AND WHEN LEAVING WORK.
WHERE CONTACT IS LIKELY, WEAR CHEMICAL RESISTANT GLOVES, A CHEMICAL SUIT, RUBBER BOOTS, AND CHEMICAL SAFETY GOGGLES PLUS A FACE SHIELD

GLOVES: NO INFORMATION AVAILABLE

CONTROL PARAMETERS:	-----ACGIH EXPOSURE LIMITS-----		
CHEMICAL NAME	TLV-TWA	STEL	CEILING
DIETHANOLAMINE	2 mg/m3		
TRIETHANOLAMINE	5 mg/m3 TWA		

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR: NONE

pH: N/A

SPECIFIC GRAVITY: 1.0000

SOLUBILITY IN WATER: NOT DETERMINED

VAPOR PRESSURE, mm Hg at 20C:

MELTING POINT or RANGE (C): -31

BOILING POINT (C):



MATERIAL SAFETY DATA SHEET

10. STABILITY AND REACTIVITY

INCOMPATIBLE MATERIALS: STRONG OXIDIZING AGENTS; STRONG ACIDS
CONDITIONS TO AVOID: NONE KNOWN
CONTAMINATION

11. TOXICOLOGICAL INFORMATION

COMPONENT TOXICOLOGY DATA (NIOSH)

CHEMICAL NAME

ETHANOL, 2,2'-IMINODI-

LD50/LC50

Oral LD50 Rat : 620 uL/kg; Oral LD50
Mouse : 3300 mg/kg; Dermal LD50 Rabbit
: 7640 uL/kg

ETHANOL, 2,2',2''-NITRILOTRI-

Oral LD50 Rat : 4920 uL/kg; Oral LD50
Mouse : 5846 mg/kg; Dermal LD50 Rabbit
: >20 mL/kg

12. ECOLOGICAL INFORMATION

OVERVIEW: THIS MATERIAL IS NOT EXPECTED TO BE HARMFUL TO THE ECOLOGY.
MOBILITY: NO DATA
PERSISTENCE: NO DATA
DEGRADABILITY: NO DATA

13. DISPOSAL CONSIDERATIONS

WASTE DESCRIPTION: SPENT OR DISCARDED MATERIAL MAY BE A HAZARDOUS WASTE.
DISPOSAL METHODS: DISPOSE OF IN A LANDFILL. DISPOSAL IS NOT LIKELY TO BE
REGULATED.

14. TRANSPORT INFORMATION

SHIPPING BASIC DESCRIPTION: DOT & IATA: NOT RESTRICTED

15. REGULATORY INFORMATION

TSCA STATUS: ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY
OF EXISTING CHEMICAL SUBSTANCES.
REGULATED CHEMICALS:



Cookson Electronics

A Division of Cookson Group plc

Page 6 of 6
Revised 8/02/06
Replaces 11/17/04
Printed 8/02/06
MSDS ID: NC027

MATERIAL SAFETY DATA SHEET

Alpha Metals

600 Route 440
Jersey City, New Jersey 07304
(201) 434-6778
(201) 434-7508 fax
www.alphametals.com

15. REGULATORY INFORMATION (Cont.)

CHEMICAL NAME		REGULATION
DIETHANOLAMINE	111-42-2	SARA 313

CERCLA REGULATED CHEMICALS AND REPORTABLE QUANTITY (RQ):
DIETHANOLAMINE 111-42-2 final RQ = 100 pounds (45.4 kg)

WHMIS RATING:

16. OTHER INFORMATION

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Additionally, Alpha Metals, Inc. assumes no responsibility for injury to the vendee or third persons proximately caused by the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.