



# Safety Data Sheet

## Section 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifier

Product Name: **BULLDOG PLUS**  
Synonym: High Alkaline Solvent Blend  
Product Item No.: 107

### 1.2 Recommended use of the product and restrictions on use

Uses: Floor Finish Stripper, Cleaner, Degreaser, Resin remover, etc.  
Restrictions: Contact with soft metals  
Product dilution: Product is able to be diluted

### 1.3 Details of the supplier of the safety data sheet

Company: Emtech Laboratories, Inc.  
580 S. Cemetery Street  
Norcross, GA. 30071  
Telephone: 877-753-3271  
Fax Phone Number: 888-294-7060

### 1.4 Emergency telephone number

Emergency Phone Number: 678-534-8007

## Section 2. Hazards Identification

### 2.1 Classification of the substance or mixture:

Acute toxicity, Inhalation (Category 4)  
Acute toxicity, Oral (Category 3)  
Acute toxicity, Dermal (Category 4)  
Skin corrosion/ Irritation (Category 1A)  
Serious Eye Damage (Category 1)  
Acute aquatic toxicity (Category 3)  
Corrosive to metals (Category 1)  
Aspiration hazard (Category 1)  
Flammable liquids (Category 4)  
Chronic aquatic toxicity (Category 3)

## 2.2 GHS Label elements

Pictogram(s)



Signal Word:

Danger

Hazard statement(s):

Combustible liquid. Harmful if swallowed, in contact with skin or if inhaled. Causes severe skin burns and eye damage. Causes severe eye damage. May cause respiratory irritation. Harmful to aquatic life with long lasting effects. May be fatal if swallowed and enters airways. May be corrosive to metals.

Precautionary statement(s): Keep only in original container. Do not breathe dust or mist. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/ protective clothing/ eye protection/ face protection. IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage. Dispose of contents/ container to an approved waste disposal plant.

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS:** Contains an ingredient (2-butoxyethanol) that is rapidly absorbed through skin.

### Section 3. Composition / Information on Ingredients

**Substance/ Mixture:**

Mixture

Hazardous Ingredients	Concentration Range (%)	CAS number
Potassium Hydroxide	3 - 5	1310-58-3
2-aminoethanol	20 - 25	141-43-5
2-butoxyethanol	22 – 28	111-76-2
Sodium alkyl naphthalene sulfonate	0.5 -1.0	26264-58-4

## Section 4. First Aid Measures

### 4.1 Description of first aid measures

#### General

Wearing chemical resistant gloves, immediately remove contaminated clothing. If danger of loss of consciousness, place patient in recovery position and transport accordingly. Apply artificial respiration if necessary. First aid personnel should pay attention to their own safety by avoiding contact with the substance.

#### Inhalation

Keep patient calm. Remove victim to fresh air. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult give medical oxygen. Get medical attention immediately.

#### Ingestion

Never give anything by mouth if victim is rapidly losing consciousness, is unconscious or convulsing. DO NOT INDUCE VOMITING. Have victim drink two glasses of water to dilute material in the stomach. If milk is available, it may be administered AFTER the water has been given. If vomiting occurs naturally, have the victim lean forward to reduce risk of aspiration, rinse mouth and repeat administration of water. Get medical attention immediately.

#### Skin

Immediately flush contaminated area with lukewarm, gently running water for at least 20-30 minutes. Under running water, remove contaminated clothing, shoes and leather goods. Apply sterile dressings. Consult a skin specialist.

#### Eye

Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 20-30 minutes, while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. Get medical attention immediately. Consult an eye specialist.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

### 4.3 Indication of any immediate medical attention and special treatment needed

Glycol Ethers: Some glycol ethers cause adverse effects in animals that include the reproductive system, offspring, blood, kidney and liver.

## Section 5. Fire-Fighting Measures

### 5.1 Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry agent (carbon dioxide, dry chemical powder).

#### Unsuitable Extinguishing Media:

Water jet.

### 5.2 Special hazards arising from the substance or mixture

Combustible liquid. Can form explosive mixtures with air near, or above, 85°C.

### 5.3 Advice for firefighters

Wear full protective clothing (chemical splash suit) and positive pressure self-contained breathing apparatus. , Reaction of this mixture with a number of commonly encountered substances can generate sufficient heat to

ignite nearby combustible materials. Reaction of this mixture with certain metals can generate flammable and explosive hydrogen gas.

Water spray can be used to absorb heat, keep containers cool and protect fire-exposed materials. If a leak or spill has not ignited, use water spray to disperse the vapors. Use water spray to flush spills away from ignition sources.

#### 5.4 Further information

Contaminated extinguishing water must be disposed of in accordance with official regulations. Can form peroxides of unknown stability.

**National Fire  
Protection**

**Association (NFPA)**

**0 = None 4 = Extreme Hazard**

Health: 3

Fire Hazard: 2

Reactivity: 0

### Section 6. Accidental Release Measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

#### 6.2 Methods and materials for containment and cleaning up

For small amounts: Pick up with suitable absorbent material. Dispose of absorbed material in accordance with regulations. Do not use saw-dust or other combustible substances as an absorbent during cleanup. For large amounts: Pump off product. Correctly dispose of recovered product immediately

#### 6.3 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

#### 6.4 Reference to other sections

See section 8 to personal protective protection and section 13 to waste treatment.

### Section 7. Handling and Storage

#### 7.1 Precautions for safe handling

This mixture is COMBUSTIBLE, TOXIC by inhalation and CORROSIVE. Immediately report leaks, spills or failures of the engineering controls. Avoid generating vapors and mists. Inspect containers for damage or leaks before handling. Whenever possible, use self-closing, portable containers for dispensing small amounts of this material. Prevent damage to containers and keep them closed when not in use. Use this mixture in the smallest possible amounts in appropriate labeled containers and open carefully on a stable surface, in a well-ventilated area. Avoid all ignition sources. Post "NO SMOKING" signs. Do not perform any welding, cutting, soldering, drilling or other hot work on any empty vessel, container or piping until all liquid and vapors have been cleared.

#### 7.2 Conditions for safe storage, including and incompatibilities

Store in a cool, dry, well-ventilated area away from sunlight, heat and ignition sources. The suitable conditions to store this product is about 20 °C and a maximum storage duration between 5 and 12 months. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Keep storage area separate from work areas. Post warning signs. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area. Periodically test for peroxide formation on long-term storage.

#### 7.3 Specific end use(s)

Apart from the uses referenced in section 1.2 no other specific uses are stipulated

## Section 8. Exposure Controls / Personal Protection

**8.1 Control parameters****Ingredients with workplace control parameters**

<b>Ingredients</b>	<b>CAS-No.</b>	<b>Type</b>	<b>Permissible Concentration</b>	<b>Basis</b>
Potassium Hydroxide	1310-58-3	Ceiling	2 mg/m <sup>3</sup>	USA, ACGIH TLV
		Ceiling	2 mg/m <sup>3</sup>	USA, NIOSH REL
2-aminoethanol	141-43-5	STEL	15 mg/m <sup>3</sup> 15 minutes	USA, ACGIH TLV
		STEL	6 ppm 15 minutes	USA, ACGIH TLV
		TWA	7.5 mg/m <sup>3</sup> 8 hours	USA, ACGIH TLV
		TWA	3 ppm 8 hours	USA, ACGIH TLV
		TWA	6 mg/m <sup>3</sup> 8 hours	USA, OSHA PEL
		TWA	3 ppm 8 hours	USA, OSHA PEL
2-butoxyethanol	111-76-2	TWA	20 ppm	USA, ACGIH
		PEL	50 ppm 240 mg/m <sup>3</sup>	USA, OSHA

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

WEEL - Workplace Environmental Exposure Levels

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

**8.2 Appropriate engineering controls**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Vapor heavier than air - prevent concentration in hollows or sumps. DO NOT enter confined spaces where vapor may have collected. Keep containers closed when not in use.

**8.3 Personal protective equipment****General Information**

Provide eyewash, safety shower and washing facilities.

**Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection**

Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Always wash hands before smoking, eating, drinking or using the toilet. Wash hands before breaks and at the end of workday. Wash contaminated clothing and other protective equipment before storage or re-use.

## Section 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

a) Appearance	Form:	Liquid
	Color:	Light to dark beige
b) Odor		Ether – amine like
c) Odor Threshold		no data available
d) pH		13.5 Typical (10%)
e) Melting point/freezing point		no data available
f) Initial boiling point and boiling range		212°F (100°C)
g) Flash point closed cup		182°F (83.33°C)
h) Evaporation rate		no data available
i) Flammability (solid, gas)		no data available
j) Upper/lower flammability or explosive limits		no data available
k) Vapor pressure		no data available
l) Vapor density		no data available
m) Relative density		1.035 g/cm <sup>3</sup> at 25 °C (77 °F)
n) Water solubility		soluble
o) Partition coefficient: n-octanol/water		no data available
p) Auto-ignition temperature		no data available
q) Decomposition temperature		no data available
r) Viscosity		no data available
s) Explosive properties		no data available
t) Oxidizing properties		no data available

**9.2 Other information**

VOC (Volatile Organic Compounds)	47% by weight
Molecular Weight	Mixture
Bulk Density	no data available

## Section 10. Stability and Reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions. Can form peroxides on long term storage.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Avoid exposure to sources of ignition, and open flame.

### 10.5 Incompatible materials

When handling this product, avoid contact with aluminum, tin, zinc, and alloys containing these metals. Contact with these materials liberates flammable hydrogen gas. Do not mix strong acids without dilution and agitation to prevent violent or explosive reactions. Avoid contact with leather, wool, strong oxidizing agents, strong acids, acid chlorides, acid anhydrides, organic halogen compounds, or organic nitro compounds, monomers (unsaturated compounds such as epoxides, vinyl chloride, vinyl acetate, acrylic monomers, acrolein and acrylonitrile), strong reducing agents, aluminum, cellulose nitrate, copper, copper alloys, galvanized iron, oleum, carbon dioxide in the air. Contact with nitromethane and other similar nitro compounds causes formation of shock sensitive salts. Vigorous reaction with: alkali metals, halogens, azides, and anhydrides.

### 10.6 Hazardous decomposition products

In the event of fire, decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen compounds, potassium oxide. In the event of fire: see section 5

## Section 11. Toxicological Information

### 11.1 Likely Routes of exposure

Likely routes of exposure include: inhalation, eye and skin contact.

### 11.2 Signs and symptoms of exposure

Eye irritation signs and symptoms may include redness and pain.

Skin irritation signs and symptoms may include dryness and pain.

Breathing of high vapor concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea, and loss of coordination.

Respiratory irritation signs and symptoms may include cough, drowsiness, headache, and sore throat.

### 11.3 Delayed and immediate effects/Chronic effects from short- and long-term exposure

#### Eye

Contact with eyes causes serious damage. Corrosion may occur.

#### Skin

Repeated skin contact may result in drying, cracking and inflammation. Prolonged contact with skin causes severe burns.

#### Inhalation

Inhalation this material may cause nose, throat, and lung irritation.

#### Ingestion

Ingestion of this material may cause abdominal pain and digestive tract burns. Corrosion may occur.

#### Chronic effects

Metabolism of 2-butoxyethanol to oxalic acid may cause kidney stones in humans; red cell damage in rodents; human red cells are more resistant. Other health injuries are not expected under normal safe use as described in the sections of this safety data sheet.

#### Respiratory or skin sensitization

No data available

#### Germ cell mutagenicity

No data available

**Reproductive toxicity**

No data available

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

**Specific target organ toxicity-single exposure**

No data available

**Specific target organ toxicity-repeated exposure**

No data available

**Aspiration hazard**

Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

**Additional Information**

RTECS (Registry of Toxic Effects of Chemical Substances): KJ8575000

Human exposure above 200 ppm can be expected to cause narcosis, damage to the kidney and liver and present an abnormal blood picture showing erythropenia, reticulocytosis, granulocytosis, leukocytosis, and would be likely to cause fragility of erythrocytes and hematuria. Swallowing of 2-butoxyethanol results in a sour taste that turns to a burning sensation and is followed by numbness of the tongue which indicates paralysis of the sensory nerve endings, central nervous system depression, Headache, narcosis Stomach-Irregularities-Based on Human evidence.

**11.4 Information on toxicological effects****Acute toxicity**

Ingredient	CAS No.	LD50-Oral, Rat	Inhalation, Rat	Dermal, Rabbit
Potassium Hydroxide	1310-58-3	333 mg/kg	No data available	No data available
2-aminoethanol	141-5-43-5	1089 mg/kg	>1.3 mg/l	2504 to 2881 mg/kg
2-butoxyethanol	111-76-2	1,300 mg/kg	4.9 mg/l 3hr	2,000 mg/kg (Rat)

**Skin corrosion/irritation test subject (Rabbit Skin)**

Skin-Rabbit

Result: Severe skin irritation-24 h

**Serious eye damage/eye irritation test subject (Rabbit Eye)**

Eyes-Rabbit

Result: Corrosive to eyes (OECD Test Guideline 405)

**11.5 Carcinogenicity**

IARC (International Agency for Research on Cancer): No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH (American Conference of Governmental Industrial Hygienists): No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP (National Toxicology Program): No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA (Occupational Safety and Health Administration): No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Section 12. Ecological Information****12.1 Ecotoxicity**

Ingredient	CAS No.	
Potassium Hydroxide	1310-58-3	LC50-Gambusia affinis (Mosquito fish)-80 mg/l-96 h
2-aminoethanol	141-5-43-5	96hrLC50 (fish):349 mg/l Semi-static



2-butoxyethanol      111-76-2      96hr LC50 (fish): 1474 mg/l (Oncorhynchus mykiss)

### 12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances. The organic ingredients in this product are readily degradable.

### 12.3 Bioaccumulative potential

No data available for the inorganic ingredient in this product, however the potential for bioaccumulation or the organic ingredients is low.

### 12.4 Mobility in soil

No data available

### 12.5 Other adverse effects

In high concentrations will cause immediate damage to wildlife, fish, and plants.

## Section 13. Disposal Considerations

### 13.1 Waste treatment methods

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER.

All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations.

Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

## Section 14. Transportation Information

### Land Transport (DOT)

14.1 UN number	1760
14.2 Proper Shipping Name:	Corrosive liquids, n.o.s.
14.3 Transport Hazard Class:	8
14.4 Packing Group	II
14.5 Special Precautions for the user	No data

IATA (International Air Transport Association): No data

IMDG (International Maritime Dangerous Goods Code): No data

## Section 15. Regulatory Information

### SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

2-Butoxyethanol (CAS 111-76-2)

### SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

### US State regulations

### Massachusetts Right To Know Components

Potassium Hydroxide (CAS 1310-58-3), 2-aminoethanol (CAS 141-43-5), 2-butoxyethanol (CAS 111-76-2)

**Pennsylvania Right To Know Components**

Potassium hydroxide (CAS 1310-58-3), 2-aminoethanol (CAS 141-43-5), 2-butoxyethanol (CAS 111-76-2)

**New Jersey Right To Know Components**

Potassium hydroxide (CAS 1310-58-3), 2-aminoethanol (CAS 141-43-5), 2-butoxyethanol (CAS 111-76-2)

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16. Other Information
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**Full text of H-Statements referred to under sections 2 and 3.**

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Eye Dam.	Serious eye damage
H227	Flammable liquids
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Aquatic toxicity, Dermal
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Acute toxicity, Inhalation
H402	Harmful to aquatic life.
H412	Chronic aquatic toxicity
Met. Corr.	Corrosive to metals

<b>Hazardous Material Information System (HMIS)</b>	<b>Health:</b>	<b>3</b>
	<b>Fire Hazard:</b>	<b>2</b>
	<b>Reactivity:</b>	<b>0</b>

0 = None 4 = Extreme

<b>Personal Protective Equipment</b>	<b>D – Safety Faceshield, Chemical Resistant Gloves &amp; Apron</b>
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SDS Issuing date: 06/10/2015

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