SAFETY DATA SHEET

Energy Mizer
295 Edwardia Drive
Greensboro, NC 27409
Telephone: 800-627-5634

1. Identification

Product identifier	**B-213**
Chemical name	Mixture.
Other means of identification	
Product code	Not available.
Recommended use	Laundry Break
Recommended restrictions	Professional Use Only
Chemical family	Mixture
Manufacturer	Refer to Supplier
Website	http://www.energymizer.net
E-Mail	Not Available.
Supplier information	
Company name	Energy Mizer
Address	295 Edwardia Dr. Greensboro, NC, USA 27409
Telephone	(800) 627 5634
Emergency phone number	(800)-627-5634

2. Hazard(s) Identification

Clear, colorless liquid.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

:

Physical hazards	Corrosive to Metals - Category 1
Health hazards	Acute Toxicity, oral - Category 4 Skin Corrosion/Irritation - Category 1 Eye Damage/Irritation - Category 1
Environmental hazards	Not currently regulated by OSHA, refer to Section 12 for additional information.
OSHA defined hazards	This mixture does not meet the classification criteria according to OSHA Hazcom 2012.
Label elements	

Signal Word	DANGER!
Hazard statement(s)	May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage.
Precautionary statement(s)	
Prevention	Keep only in original container. Do not eat, drink or smoke when using this product. Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/clothing and eye/face protection.

Response	If on skin (or hair): Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. If swallowed: Rinse mouth. Do not induce vomiting. If swallowed: Call a poison center/doctor if you feel unwell. 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. Absorb spillage to prevent material damage.
Storage	Store locked up. Store in corrosive resistant container with a resistant inner liner.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise Classified (HNOC)	Other hazards which do not result in classification: May cause respiratory irritation. Burning produces obnoxious and toxic fumes. Contact with metals may release small amounts of flammable hydrogen gas.
Supplemental Information	None.

3. Composition/information on ingredients

Mixture containing acids.

Chemical name	Common name and synonyms	CAS number	Concentration (%)
Potassium hydroxide	Caustic potash Potassium hydrate	1310-58-3	30.00
Potassium silicate	Silicic acid, Potassium salt	1312-76-1	20.00

4. First-aid measures

Inhalation	Immediately remove person to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. Seek immediate medical attention/advice.
Skin contact	Wear appropriate protective equipment. Remove/Take off immediately all contaminated clothing. Immediately flush skin with gently flowing, running water for at least 20 minutes. Do not rub area of contact. Obtain medical attention immediately. Wash contaminated clothing before reuse. Contaminated leather may require disposal.
Eye contact	Wear appropriate protective equipment. Protect unharmed eye. If in contact with eyes, immediately flush eyes with running water for at least 20 minutes. If contact lens is present, DO NOT delay flushing or attempt to remove the lens until flushing is done. Obtain medical attention immediately.
Ingestion	Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Have victim rinse mouth with water, then give one to two glasses of water to drink. Seek immediate medical attention/advice.
Most important symptoms and effects, both acute and delayed	Causes serious eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis. Causes skin irritation. Symptoms may include redness, blistering, pain and swelling. May cause respiratory irritation. Symptoms may include coughing, choking and wheezing. Harmful if swallowed. Ingestion may cause severe burns to the mucous membranes of the digestive tract. Symptoms may include abdominal pain, vomiting, burns, perforations and bleeding.
Indication of any immediate medical attention and special treatment needed	Immediate medical attention is required. Causes chemical burns. Treat symptomatically.
General Information	None reported by the manufacturer.

5. Fire-fighting measures

Suitable extinguishing media	Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical. May react with water. Use water spray with caution.

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Unsuitable extinguishing media	Use water spray with caution. Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	Not considered flammable. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.
Special protective equipment and precautions for fire-fighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Use water to cool fire-exposed containers. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply or any natural waterway. Dike for water control.
Specific methods	Burning produces obnoxious and toxic fumes.
General fire hazards	Not flammable.
Hazardous combustion products	.Carbon dioxide and carbon monoxide. Potassium oxides

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.
Methods and materials for containment and cleaning up	Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe to do so. Dike for water control. Dilute acid with water and neutralize with Sodium Carbonate (soda ash) or lime. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.
Environmental precautions	Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

7. Handling and storage

Precautions for safe handling	Wear protective gloves/clothing and eye/face protection. Use only in well-ventilated areas. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment. Do not breathe fumes or mists. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Keep away from heat and flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Empty containers retain residue (liquid and/or vapour) and can be dangerous.
Conditions for safe storage, including any incompatibilities	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep away from incompatibles.Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Do not freeze. Store in corrosion-resistant containers.

8. Exposure controls/personal protection

Occupational exposure limits

U.S. OSHA Exposure Limits (29 CFR 1910)

	Type	Value
Potassium hydroxide (CAS 1310-58-3)	TWA	2 mg/m³ (Ceiling)

US. ACGIH Threshold Limit Values

	Type	Value

Potassium hydroxide (CAS 1310-58-3)	TWA	2 mg/m³ (Ceiling)
	Ceiling	2 mg/m³

US. NIOSH: Pocket Guide to Chemical Hazards

	Type	Value
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m³

Biological limit values

Appropriate engineering controls Use only in well-ventilated areas. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Individual protection measures, such as personal protective equipment

Eye / face protection Chemical splash goggles must be worn when handling this material. A full face shield may also be necessary.

Skin protection

Hand protection Advice should be sought from glove suppliers. Wear gloves impervious to this material.

Other An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required depending on workplace standards.

Respiratory protection Respiratory protection is required if the concentrations exceed the TLV. NIOSH-approved respirators are recommended. A self contained breathing apparatus should be used in emergency situations or instances where exposure levels are not known. Seek advice from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Do not breathe fumes or mists. Do not ingest. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

9. Physical and chemical properties

Appearance

Physical state Liquid

Form Clear liquid.

Color Clear, colorless.

Odor Mild.

Odor threshold Not applicable.

pH 14

Melting point /freezing point Not available.

Initial boiling point and boiling range 98.8°C (210°F)

Flash point Not applicable.

Evaporation rate (butyl acetate = 1) ; 1

Flammability (solid, gas) Not applicable.

Lower flammability/explosive limit Not applicable.

Upper flammability/explosive limit Not applicable.

Vapour pressure 17 mmHg

Vapour density Not available.

Relative density 1.40

Solubility(ies)

Other solubility(ies) Not available.

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Solubility (water)	Very soluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	N/Ap
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive
Oxidizing properties	None known.
Specific gravity	1.40
Critical temperature	Not applicable.
VOC	N/Av
Volatilities %	Not available.
Other physical/chemical data	None known or reported by the manufacturer.

10. Stability and reactivity

Reactivity	Reacts vigorously, violently or explosively with many organic and inorganic chemicals, such as strong acids, acid chlorides, acid anhydrides, ketones, glycols, and organic peroxides. Not normally reactive. Contact with metals may release small amounts of flammable hydrogen gas.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat and open flame. Keep away from incompatibles. Keep container tightly closed when not in use. Avoid contact with water.
Incompatible materials	Metals (e.g. tin, aluminum, zinc and alloys containing these metals) Acids; Methanol.; Chloroform .
Hazardous decomposition products	None known, refer to hazardous combustion products in Section 5.

11. Toxicological information

Information on likely routes of exposure

Routes of entry inhalation	YES
Routes of entry skin & eye	YES
Routes of entry Ingestion	YES
Routes of exposure skin absorption	NO
Most important symptoms/effects, acute and delayed	May cause severe irritation to the nose, throat and respiratory tract. Symptoms may include coughing, choking and wheezing. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Causes serious eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis. Causes skin irritation. Symptoms may include redness, blistering, pain and swelling. May cause respiratory irritation. Symptoms may include coughing, choking and wheezing. Harmful if swallowed. Ingestion may cause severe burns to the mucous membranes of the digestive tract. Symptoms may include abdominal pain, vomiting, burns, perforations and bleeding.

Information on toxicological effects

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Acute toxicity

Acute Toxicity, oral - Category 4
Harmful if swallowed.
The calculated ATE values for this mixture are:
ATE dermal = 4200 mg/kg
ATE oral = 683.55 mg/kg

Components	Species	Test Results
Potassium hydroxide		
Acute		
Dermal		
LD50	Rabbit	> 1260 mg/kg
inhalation		
LC50	Rat	N/Av
Oral		
LD50	Rat	205 mg/kg
Potassium silicate		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
inhalation		
LC50	Rat	> 2.06 mg/L (dust) (No mortality)
Oral		
LD50	Rat	5700 mg/kg

Skin Corrosion/Irritation

Skin Corrosion/Irritation - Category 1 Causes severe skin burns and eye damage. Skin contact may cause numbness or slight tingling, blisters, burns and possibly permanent damage.

Serious eye damage/Irritation

Serious eye damage/eye irritation - Category 1. Causes serious eye damage. Symptoms may include severe pain, blurred vision, redness and corrosive damage.

Respiratory or skin sensitization

Not expected to be a skin or respiratory sensitizer.

Germ cell mutagenicity

Not expected to be mutagenic in humans.

Carcinogenicity

No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive toxicity

Not expected to have other reproductive effects.

Specific target organ toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Chronic effects

Chronic skin contact with low concentrations may cause dermatitis.

Aspiration toxicity

This substance or mixture is not classified as an aspiration hazard.

Further information

None known or reported by the manufacturer.

12. Ecological information

Ecotoxicity

See the following tables for the substance's ecotoxicity data.
The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

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Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Potassium hydroxide	1310-58-3	80 mg/L (Mosquito fish)	N/Av	None.
Potassium silicate	1312-76-1	> 146 mg/L (Golden orfe)	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Potassium hydroxide	1310-58-3	56 mg/L Ceriodaphnia (water flea)	N/Av	None.
Potassium silicate	1312-76-1	> 146 mg/L/24hr (Daphnia magna)	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Potassium hydroxide	1310-58-3	N/Av	N/Av	None.
Potassium silicate	1312-76-1	> 345.4 mg/L/72hr (Green algae) (Read-across)	N/Av	None.

Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

Bioaccumulation potential

No data is available on the product itself.

Components	Partition coefficent n-octanol/ater (log Kow)	Bioconcentration factor (BCF)
Potassium hydroxide (CAS 1310-58-3)	N/Ap	N/Ap
Potassium silicate (CAS 1312-76-1)	N/Ap	no bioaccumulation expected

Mobility in soil

No data is available on the product itself.

Other adverse effects

No data is available on the product itself.

13. Disposal consideration

Disposal instructions

Handle waste according to recommendations in Section 7.

Local disposal regulations

Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

Hazardous waste code

If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261.
It is the responsibility of the waste generator to determine the proper waste identification and disposal method.
For disposal of unused or waste material, check with local, state and federal environmental agencies.

Waste from residues / unused products

Contaminated packaging

14. Transport information

TDG

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UN Number	UN3264
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. Potassium hydroxide, Potassium Silicate)
Transport hazard class(es)	
Class	8
Subsidiary ris	none
Packaging group	II
Special precautions for user	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.

49CFR/DOT

UN Number	UN3264
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. Potassium hydroxide, Potassium Silicate)
Transport hazard class(es)	
Class	8
Subsidiary ris	
Packaging group	II
Special precautions for user	May be shipped as a Limited quantity when transported in containers no larger 4.0 L (1.0 gallon) for liquids or 5.0 kg (11 pounds) for solids, in packages not exceeding 30 kg (66 pounds) gross mass.

General information None reported by the manufacturer.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US Federal Information: SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Immediate (Acute) health hazard . Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

Components listed below are present on the following U.S. Federal chemical lists:

Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Potassium hydroxide	1310-58-3	Yes	1000 lb/ 454 kg	None.	No	N/Ap
Potassium silicate	1312-76-1	Yes	None.	None.	No	N/Ap

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes

Delayed Hazard - No

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard - No

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US state regulations

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Potassium hydroxide	1310-58-3	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes
Potassium silicate	1312-76-1	No	N/Ap	No	No	No	No	No	No

Canadian Information:

Refer to Section 2 for a WHMIS Classification for this product. Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

International Inventories

Components listed below are present on the following International Inventory lists:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Potassium hydroxide	1310-58-3	215-181-3	Present	Present	(1)-369	KE-29139	Present	HSR001546
Potassium silicate	1312-76-1	215-199-1	Present	Present	(1)-459	KE-31000	Present	HSR004068

16. Other information, including date of preparation or last revision

Issue date 06/09/2015

Version # 1

Legend

ACGIH: American Conference of Governmental Industrial Hygienists
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CSA: Canadian Standards Association
DOT: Department of Transportation
EPA: Environmental Protection Agency
HMIS: Hazardous Materials Identification System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
IMDG: International Maritime Dangerous Goods
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
N/Ap: Not Applicable
N/Av: Not Available
NFPA: National Fire Protection Association
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit

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RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

HMIS Rating

: *- Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

Health: *2 *Flammability:* 0 *Reactivity:* 1

NFPA Rating

0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

: *Health:* 2 *Flammability:* 0 *Instability:* 1 *Special Hazards:* None.

Disclaimer

Prepared by: ICC The Compliance Center Inc.
http://www.thecompliancecenter.com

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Bibliography

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European Chemicals Agency, Classification Legislation, 2015
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