SAFETY DATA SHEET

SECTION 1 – PRODUCT NAME AND COMPANY IDENTIFICATION

1.1 Product name: Heavy Duty Liquid Laundry Detergent
    General use: Proprietary industrial cleaner
    Product description: Green liquid with citrus odor
    Product number(s): 8800

1.2 Manufacturer: Michigan State Industries, 17600 Ryan Rd, Detroit, MI 48212
    Telephone number: (313) - 368 - 3200 x51412
    Emergency number: Poison Control Center: (800) - 222 - 1222

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SECTION 2 – HAZARDS IDENTIFICATION

2.1 Classification of the substance: Cat. 1A; Skin Cat. 1; Eye Cat. 2; Aquatic

2.2 Signal word: DANGER

2.3 Hazard statement: H314: Causes severe skin and eye irritation.
                      H410: Very toxic to aquatic life with long lasting effects.

2.4 Precautionary prevention statements: P264: Wash exposed skin thoroughly after handling.
                                          P280: Wear protective gloves/protective clothing/eye protection/face protection.

2.5 Precautionary response statements: P312: Call a POISON CENTER or doctor / physician if you feel unwell.
                                          P301, P330, P381: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
                                          P304, P340: IF INHALED: Remove victim to fresh air, rest in a position comfortable for breathing.
                                          P305, P351, P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing as needed.
                                          P363: Wash contaminated clothing before reuse.

2.6 Precautionary disposal statement: P501: Dispose of contents/container in accordance with local / national / international regulations.

2.7 NFPA / HMIS rating: Factory 2, 0, 0, COR
        End User (concentrated/diluted) 1, 0, 0, COR

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Hazardous components: CAS # % by wt. OSHA PEL ACGIH TLV SARA RQ (lbs.)
                          TITLE III

Nonylphenol ethoxylate  9016-45-9 < 12% Not est. Not est. 311 / 312  None
Potassium metasilicate  1312-76-1 < 4% 2 2 Not est. 311 / 312  None

The remaining components of this product are non-hazardous or are in small enough quantities as to not meet regulatory thresholds for disclosure.
These components contain no substances or impurities which would influence the classification of this product.
All components and their specific proportions in this product are considered proprietary to Michigan State Industries.

SECTION 4 – FIRST AID MEASURES

4.1 Description of first aid measures

General information: Immediately remove any clothing soiled by the product. Always seek medical help for any over exposure.
After inhalation: In case of unconsciousness place patient stably in side position for transportation. Supply fresh air. If required, provide artificial respiration. Keep patient warm.
After skin contact: Immediately rinse with water. Seek immediate medical advice.
After eye contact: Remove contact lenses if worn. Rinse eyes for several minutes under running water. Seek medical advice.
After swallowing: Do not induce vomiting; call for medical help immediately. Rinse out mouth and then drink plenty of water.
A person vomiting while on their back should be turned onto their side.
SECTION 5 – FIRE FIGHTING PROCEDURES

5.1 Extinguishing media: Carbon dioxide, water fog, chemical foam, dry chemical. Material is non-flammable.
5.2 General hazards: Material is irritating, avoid contact and conditions that result in agitating or foaming the material.
5.3 Advice for firefighters: Protective equipment: Wear a self-contained respiratory protective device.
5.4 Unusual hazards: None.
5.5 Firefighting procedures: Keep containers cool with water spray to prevent container rupture due to steam buildup; floor will become slippery if material is released. Material is alkaline and will irritate the eyes if product or fumes contact the eyes.
5.6 Decomposition compounds: Oxides of carbon, sodium, silicon and potassium may be released with sufficient thermal energy.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1 Protective equipment and emergency procedures: Wear protective equipment. Keep unprotected persons away. Particular danger of slipping on leaked / spilled product. Ensure adequate ventilation, material is irritating, avoid direct contact.
6.2 Environmental precautions: Dilute with plenty of water and do not allow it to enter sewers, surface or ground water.
6.3 Methods and materials for Containment and clean up: Absorb with liquid-binding material (sand, diatomite, universal binders, sawdust). Use neutralizing agent.
6.4 Reference to other sections: See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment.

SECTION 7 – HANDLING AND STORAGE

7.1 Precautions for safe handling: Ensure good ventilation / exhaustion at the workplace. Prevent formation of aerosols.
7.2 Conditions for safe storage: Do not store together with acids or foodstuffs. Store in cool, dry conditions in well-sealed receptacles.
7.3 Specific end use(s): No further relevant information available.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure controls: General protective and hygienic measures: Keep away from foodstuffs and beverages. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid direct contact with the eyes and skin.

Respiratory protection: None required unless product is aerated or sprayed.

Protection of hands: Protective gloves, the glove material has to be impermeable and resistant to the product, such as neoprene, butyl or nitrile rubber gloves with cuffs.

Eye protection: Safety glasses and / or goggles with side shields.

Body protection: Protective work clothing.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance: Green liquid
Odor: Citrus
Odor threshold: ND
pH (10%): 12.0
Melting point / freezing point: ND
Initial boiling point and boiling range: ND
Flash point: ND
Evaporation rate: ND
Flammability (solid, gas): ND
Upper / lower flammability or explosive limits: ND
Vapor pressure: ND
Vapor density: ND
Relative density: 1.07, 25°C
Solubility: Complete
Partition coefficient: n-octanol/water: ND
Auto ignition temperature: ND
Decomposition temperature: ND
9.2 Other information: None
SECTION 10 – STABILITY AND REACTIVITY

10.1 Reactivity: No spontaneous reactivity
10.2 Chemical stability: Thermal decomposition possible at temperatures exceeding 600°F, no decomposition if used according to specifications.
10.3 Possible hazardous reactions: Corrosive action on metals, reacts with powdered metals, reacts strongly with acids.
10.4 Conditions to avoid: No further relevant information available.
10.5 Incompatible materials: Strong oxidizers and acids.
10.6 Decomposition products: Oxides of carbon, sodium, potassium, silicon and nitrogen.

SECTION 11 – TOXICOLOGICAL INFORMATION

11.1 Hazardous Ingredients CAS # EINECS # LD 50, species / route / concentration
Nonylphenol ethoxylate 9016-45-9 104-40-5 Rat, oral, 3908 mg/kg
Potassium metasilicate 1312-76-1 215-199-1 Rat, oral, 800 mg/kg
11.2 Serious eye damage/irritation: Causes severe eye damage.
11.3 Respiratory or skin sensitization: No data available
11.4 Repeated dose toxicity: No data available
11.5 STOT (single/repeated) No data available
11.6 Carcinogenicity: No data available
11.7 Mutagenicity: No data available
11.8 Reproductive toxicity: No data available

SECTION 12 – ECOLOGICAL INFORMATION

12.1 Toxicity: Nonylphenol ethoxylate: LC50, Fathead minnow, 3.8 mg/liter (96 hours)
Potassium metasilicate: LC50, Fathead minnow, 500 mg/liter (96 hours)
Finished product: No available data
12.2 Persistence and degradability: Expected to be easily biodegradable based on composition.
12.3 Bio accumulative potential: Not expected to exhibit this behavior based on composition.
12.4 Soil mobility: No specific data available.
12.5 General information: No data are available on the adverse effects of this material on the environment. Neither COD nor BOD data are available. Based on the chemical composition of this product it is assumed that the mixture can be treated in an acclimatized biological waste treatment plant system in limited quantities. However, such treatment should be evaluated and approved for each specific biological system.
None of the ingredients in this mixture are classified as a Marine Pollutant.

SECTION 13 – DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods: It is recommended that small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements. Refer to 40 CFR 260 - 299 for complete waste disposal regulations for alkaline materials. Consult your local, state, or federal agency before disposing of any chemicals.
SECTION 14 – TRANSPORTATION INFORMATION

14.1 UN number: UN1760
DOT, ADR, IMDG, IATA
14.2 Proper shipping name: Corrosive liquid, N.O.S.
DOT, ADR, IMDG, IATA
14.3 Transport hazard class: 8
DOT, ADR, IMDG, IATA
14.4 Packing group: III, Corrosive
DOT, ADR, IMDG, IATA
14.5 Environmental hazards: Yes
Marine

Note: Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG, and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

SECTION 15 – REGULATORY INFORMATION

15.1 TSCA: All components of this product are listed on the U.S. Toxic Substances Control Act Chemical Inventory (TSCA Inventory) or are exempted from listing because a Low Volume Exemption has been granted in accordance with 40 CFR 723.50.
15.2 SARA TITLE III: Not regulated under 302, 303, 313. Regulated under 311 / 312.
15.3 CERCLA: Ethylene oxide CAS # 75-21-8 RQ 10 lbs.
1,4-dioxane CAS # 123-91-1 RQ 10 lbs.
15.4 Clean Air Act: No ingredients defined as Hazardous Air Pollutants or Stratospheric Ozone Depleting.
15.5 California Prop. 65: This product contains a chemical(s) known to the state of California to cause cancer.
(Ethylene oxide CAS # 75-21-8, 1,4-dioxane CAS # 123-91-1)
15.6 Right To Know: NJ, PA, MI, RI, MN for nonylphenol ethoxylate (CAS # 9016-45-0). MA, MI, MN for ethylene oxide (CAS # 75-21-8) and 1,4-dioxane (CAS # 123-91-1).
15.7 CPR classification: WHMIS Classification: D2B, E
15.8 Canadian IDL: Components of this product identified by CAS number and listed on the Canadian Ingredient Disclosure List are shown in Section 2.
15.9 Can. DSL / NDSL: Components of this product identified by CAS number are listed on the DSL or NDSL, or are otherwise in compliance with the New Substances Notification (NSN) regulations. Only ingredients classified as “hazardous” are listed in Section 2 unless otherwise indicated.
15.10 EINECS: Components of this product identified by CAS numbers are on the European Inventory of Existing Commercial Chemical Substances.

SECTION 16 – OTHER INFORMATION

16.1 Risk phrases: R35 / 41: Causes serious skin burns / Risk of serious damage to eyes.
R400: Toxic to aquatic life with long lasting effects.

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