SAFETY DATA SHEET

Section 1: Chemical Product and Company Information

1.1 Product Identifier
Product Name: KaiO Water Soluble Cleaner

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against
Product Use: Water Soluble Cleaner

1.3 Details of the Supplier of the Safety Data Sheet
Manufacturer: Kaivac Cleaning Systems
401 South Third St.
Hamilton, OH 45011

1.4 Emergency Telephone Number: **800-287-1136**
Telephone Number for Information: **800-287-1136**

Email:
SDS Date of Preparation/Revision: November 20, 2014

Section 2: Hazards Identification

2.1 Classification of the Substance or Mixture

EU Classification (1272/2008): Eye Damage Category 1 (H318)
Skin Sensitizer Category 1 (H317)

EU Classification (1999/45/EC): Xi R41, R43
US OSHA Classification (29CFR1910.1200): Eye Damage Category 1
Skin Sensitizer Category 1

Refer to Section 16 for Full Text of EU Classes and R Phrases

2.2 Label Elements:

DANGER! Contains ethoxylated alcohols, hydrogen peroxide and orange oil

H318 Causes serious eye damage. H317 May cause an allergic skin reaction. **Prevention:** P280 Wear gloves and eye protection. P264 Wash thoroughly after handling. P261 Avoid breathing mist, vapor or spray. P272 Contaminated work clothing should not be allowed out of the workplace. **Disposal:** P501 Dispose of contents and container in accordance with local and national regulations.	**Response:** P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contacts, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P333+P313 If skin irritation or rash occurs: Get medical attention. P362+P364 Take off contaminated clothing and wash before reuse.

2.3 Other Hazards: None identified

Section 3: Composition/Information on Ingredients

3.2 Mixture

Component	CAS Number/ EINECS Number.	Amount	EU/GHS Classification (1272/2008) EU Classification (67/548/EEC)
Ethoxylated Alcohols	Proprietary	1-5%	Xi R41 Eye Damage 1 (H318)
Hydrogen Peroxide	7722-84-1/231-765-0	1-3%	C, Xn, O R5, R8, R35, R20/22 Oxidixing Liquid 1 (H271) Acute Toxicity Oral 4 (H302) Skin Corrosion 1A (H314) Eye Damage 1 (H318) STOT SE3 (H335) Aquatic Chronic 3 (H412)
Cold Pressed Orange Oil/ d-Limonene	8028-48-6/232-433-8	1-2%	N, Xn, Xi R38, R43, R51/53, R65 Skin Irritation 2 (H315) Skin Sensitization 1 (H317) Aspiration 1 (H304) Aquatic Chronic 2 (H411)

Refer to Section 16 for Full Text of EU/GHS Classes and R Phrases/H Statements
The exact percentages are a trade secret.

Section 4: First Aid Measures

4.1 Description of First Aid Measures

First Aid

Eyes: Immediately flush eyes with water for at least 20 minutes while lifting the upper and lower lids. Get immediate medical attention.

Skin: Wash with soap and water. Remove contaminated clothing and launder before reuse. If irritation or rash develops and persists, get medical attention.

Ingestion: If conscious, rinse mouth with water and give 1 glass of water to dilute. Do not induce vomiting. Never give anything by mouth to a person who is unconscious or convulsing. Get medical attention.

Inhalation: Move person to fresh air. Seek medical attention if irritation or other symptoms persist.

See Section 11 for more detailed information on health effects.

4.2 Most Important symptoms and effects, both acute and delayed: Causes severe eye irritation or burns. Permanent damage may occur. Inhalation of mists may cause upper respiratory irritation. Swallowing may cause gastrointestinal irritation. Contact with skin may cause sensitization and an allergic reaction.

4.3 Indication of any immediate medical attention and special treatment needed: If eye contact occurs, get immediate medical attention.

Section 5: Fire Fighting Measures

5.1 Extinguishing Media: Use any media that is suitable for the surrounding fire.

5.2 Special Hazards Arising from the Substance or Mixture: This product is not flammable or combustible. Thermal decomposition produces oxides of carbon.

5.3 Advice for Fire-Fighters: Firefighters should wear positive pressure self- contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:
Wear appropriate protective clothing as needed to prevent eye and skin contact.

6.2 Environmental Precautions: Avoid contamination of water supplies and environmental releases. Report spills as required to authorities.

6.3 Methods and Material for Containment and Cleaning Up: Contain and collect spill with inert materials such as commercial absorbent, sand or earth. Place in a suitable container for disposal. If permitted, dilute and flush to sewer.

6.4 Reference to Other Sections:
Refer to Section 13 for disposal information and Section 8 for protective equipment.

Section 7: Handling and Storage

7.1 Precautions for Safe Handling:
Prevent eye contact. Avoid prolonged skin contact. Remove and launder contaminated clothing before re-use. Wash thoroughly after handling and before eating, drinking, smoking or using toilet facilities.

7.2 Conditions for Safe Storage, Including any Incompatibilities: Store in a cool, well-ventilated area away from bases and other incompatible materials. Keep container closed.

7.3 Specific end use(s):
Industrial uses: None identified
Professional uses: None identified

Section 8: Exposure Controls / Personal Protection

8.1 Control Parameters:

Chemical Name	US OEL	EU IOEL	UK OEL	DFG MK	Biological Limit Value
Hydrogen Peroxide	1 ppm TWA OSHA PEL 1 ppm TWA ACGIH TLV	None Established	1 ppm TWA 2 ppm STEL	0.5 ppm TWA 1 ppm STEL (inhalation)	None Established
Ethoxylated Alcohols	None Established	None Established	None Established	None Established	None Established
Cold Pressed Orange Oil/ d-Limonene	None Established	None Established	None Established	None Established	None Established

8.2 Exposure Controls:

Appropriate Engineering Controls: General ventilation is generally adequate for normal use. Use local exhaust ventilation if needed to maintain concentration of hazardous constituents below recommended limits.

Personal Protective Measurers

Respiratory Protection: Not necessary if workplace concentrations of hazardous constituents are below recommended limits. If the exposure limit is exceeded, an approved respirator should be worn. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable local or national regulations, in the US: OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.
Eye Protection: Use chemical safety goggles.
Skin Protection: Impervious gloves such as neoprene or nitrile recommended where contact is likely. Wear protective clothing as required to avoid prolonged or repeated skin contact when handling.
Other protection: None required.

Section 9: Physical and Chemical Properties

9.1 Information on basic Physical and Chemical Properties:

Appearance and Odor: Clear blue liquid with a citrus odor.

Solubility in Water:	Soluble	**Boiling Point:**	212°F
Odor Threshold:	Not determined	**Partition Coefficient:**	Not determined
pH:	6-7	**Melting Point:**	Not determined
Specific Gravity:	1.00	**Vapor Density:**	Not determined
Evaporation Rate:	Not determined	**Vapor Pressure:**	Not determined
Flammability(solid/gas):	Not determined	**Flash Point:**	Not determined
Explosive Limits:	Not determined	**Autoignition Temperature:**	Not determined
Decomposition Temperature:	Not determined	**Viscosity:**	Not determined
Explosive Properties:	Not determined	**Oxidizing Properties:**	None

9.2 Other Information: None

Section 10: Stability and Reactivity

10.1 Reactivity: Not reactive under normal conditions of use and storage.

10.2 Chemical Stability: Stable.

10.3 Possibility of Hazardous Reactions: None known.

10.4 Conditions to Avoid: None known.

10.5 Incompatible Materials: None known.

10.6 Hazardous Decomposition Products: Thermal decomposition yields oxides of carbon.

Section 11: Toxicological Information

11.1 Information on Toxicological Effects:

Potential Health Hazards

Inhalation: Mists may cause mucous membrane and upper respiratory tract irritation with coughing, sore throat and difficulty in breathing.

Skin Contact: May cause irritation. May cause an allergic skin reaction.

Eye Contact: Causes severe irritation or burns with redness, pain and tearing. Permanent eye damage may occur.

Ingestion: Swallowing may cause gastrointestinal irritation.

Acute toxicity values: Product ATE: Oral: 39767 mg/kg, dermal > 66667 mg/kg, inhalation: 66.7 mg/L/4hr
Hydrogen Peroxide: Oral rat LD50: 1193 mg/kg, dermal rat LD50 >2000 mg/kg, inhalation rat LD50: 2 mg/L/4 hours

Skin corrosion/irritation: Not corrosive to skin.

Eye damage/ irritation: Product is damaging to eyes.

Respiratory Irritation: Prolonged inhalation may cause respiratory irritation.

Respiratory Sensitization: Not a respiratory sensitizer.

Skin Sensitization: Product is a skin sensitizer.

Germ Cell Mutagenicity: This product is not expected to present a risk of genetic damage

Carcinogenicity: None of the components is listed as a potential carcinogen by IARC, NTP, OSHA or the EO CLP.

Developmental / Reproductive Toxicity: No specific data is available. Components are not reproductive toxins.

Specific Target Organ Toxicity (Single Exposure): No specific data is available.

Specific Target Organ Toxicity (Repeated Exposure): No specific data is available. No adverse effects are expected.

Section 12: Ecological Information

12.1 Toxicity:
Cold Pressed Orange Oil/ d-Limonene: Brachydanio rerio LL50: 5.65 mg/L/96hr
Hydrogen peroxide: Pimephales promelas LC50: 16.4 mg/L
Alcohols, C9-11, ethoxylated: Oncorhynchus mykiss LC50: 5.7 mg/L,

12.2 Persistence and degradability: Product is expected to be readily biodegradable.

12.3 Bioaccumulative Potential: Not expected to bioaccumulate.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: None required.

12.6 Other Adverse Effects: No data available.

Section 13: Disposal Considerations

13.1 Waste Treatment Methods:
Dispose in accordance with all local, state and national regulations. Local regulations may be more stringent than regional and national requirements. It is the responsibility of the waste generator to determine the toxicity and physical characteristics of the material to determine the proper waste identification and disposal in compliance with applicable regulations

Section 14: Transport Information

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
US DOT	None	Not Regulated	None	None	No
Canadian TDG	None	Not Regulated	Not Regulated	None	No
EU ADR/RID	None	Not Regulated	Not Regulated	None	No
IMDG	None	Not Regulated	Not Regulated	None	No
IATA/ICAO	None	Not Regulated	Not Regulated	None	No

14.6 Special Precautions for User: None identified

14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code: Not applicable.

Section 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

UNITED STATES REGULATIONS:

U.S. Sara Reporting Requirements: The components of this product are not subject to the reporting requirements of Sections 302, 304, and 313 Of Title III Of The Superfund Amendments And Reauthorization Act.

U.S. SARA Threshold Planning Quantity: There are no specific Threshold Planning Quantities for the components of this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

U.S. CERCLA Reportable Quantity (RQ): This product is not subject to reporting requirements under CERCLA. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

U.S. TSCA Inventory Status: The components of this product are listed on the TSCA Inventory or are exempted from listing.

Other U.S. Federal Regulations: None

California Safe Drinking Water And Toxic Enforcement Act (Proposition 65): Ingredients within this product are not on the Proposition 65 Lists.

Section 16: Other Information

NFPA RATING (NFPA 704)	FIRE: 1	HEALTH: 3	INSTABILITY: 0
HMIS RATING	FIRE: 1	HEALTH: 3	PHYSICAL HAZARD: 0

EU and GHS Classes and Risk Phrases and Hazard Statements for Reference (See Sections 2 and 3):
H271 May cause fire or explosion – strong oxidizer.

H302 Harmful if swallowed
H304 May be fatal if swallowed and enters airways
H314 Causes severe skin burns and eye damage
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H318 Causes serious eye damage.
H335 May cause respiratory irritation
H411 Toxic to aquatic life with long lasting effects
H412 Harmful to aquatic life with long lasting effects
STOT SE 3 Specific Target Organ Toxicity Single Exposure Category 3

N Dangerous for the environment
C Corrosive
O Oxidizing
Xn Harmful
Xi Irritant
R5 Heating may cause an explosion
R8 Contact with combustible material may cause fire
R20/22 Harmful by inhalation and if swallowed
R35 Causes severe burns
R38 Irritating to skin
R41 Risk of serious eye damage
R43 May cause sensitization by skin contact
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65 Harmful: May cause lung damage if swallowed

Effective Date: 11/20/14
Supersedes Date: 03/14/14

Revision Summary: Convert to REACH/GHS Format with GHS/CLP classification.
