

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **RESTORE™**  
PRODUCT USE: Oxygen Stabilizer/Sewage Digester  
PRODUCT NUMBER: K-691  
COMPANY: K & K Chemical  
PHYSICAL ADDRESS: 1303 Industrial Drive, Royse City, Texas, 75189  
MAILING ADDRESS: PO Box 1059, Royse City, Texas, 75189  
COMPANY PHONE: 800-958-6921  
WEB ADDRESS: KandKChemical.com  
EMERGENCY PHONE: INFOTRAC (24/7) 1-800-535-5053 (USA)

## SECTION 2. HAZARD(S) IDENTIFICATION

**DANGER**



### **HAZARD CATEGORIES:**

Oxidizing Liquids: 1  
Corrosive to Metals: 1  
Acute Toxicity - Oral: 4  
Acute Toxicity - Inhalation: 4  
Skin Corrosion/Irritation: 1

### **HAZARD STATEMENTS:**

May cause fire or explosion; strong oxidizer  
May be corrosive to metals  
Harmful if swallowed  
Harmful if inhaled  
Causes severe skin burns and eye damage

### **PRECAUTIONARY STATEMENTS:**

#### **Prevention:**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Keep away from clothing and other combustible materials.  
Do not eat, drink or smoke when using this product.  
Avoid breathing fumes, mist, vapors or spray.  
Wear protective gloves, protective clothing and eye protection/face protection.  
Wash skin thoroughly after handling.

#### **Response:**

In case of fire: Use water spray for extinction.  
In case of major fire and large quantities: Evacuate area. Fight fire remotely due to risk of explosion.  
**IF SWALLOWED:** Rinse mouth with water. Do NOT induce vomiting. Call a POISON CENTER or doctor if you feel unwell.  
**IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.  
**IF ON CLOTHING:** Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.  
(Continued on next page)

## **SECTION 2. HAZARD(S) IDENTIFICATION** (Continued)

### **PRECAUTIONARY STATEMENTS:** (Continued)

**Response:** (Continued)

**IF ON SKIN:** Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Wash contaminated clothing before reuse.

**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.

### **Storage:**

Store in a well-ventilated place. Keep cool.

Store at temperatures not exceeding 40 C / 104 F.

Store away from other materials.

### **Disposal:**

Dispose of contents/container to appropriate waste site or reclaimer in accordance with local and national regulations.

## **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>CHEMICAL NAME</b>	<b>SYNONYMS</b>	<b>CAS #</b>	<b>WT %</b>
Hydrogen peroxide		231-765-0	20 - 40

## **SECTION 4. FIRST AID MEASURES**

**GENERAL ADVICE:** First aid responders should pay attention to self-protection and use the recommended protective clothing (chemical-resistant gloves, splash protection). If potential for exposure exists, refer to Section 8 for specific personal protective equipment.

**EYE CONTACT:** Open eyes while under gently running water. Use sufficient force to open eyelids. "Roll" eyes to expose more surface. Minimum flushing is for 15 minutes. Seek immediate medical attention.

**SKIN CONTACT:** Immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove contaminated clothing, taking care not to contaminate eyes. If skin becomes irritated and irritation persists, medical attention may be necessary. Wash contaminated clothing before reuse, discard contaminated shoes.

**INHALATION:** After high vapor exposure, remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, trained personnel should immediately begin artificial respiration. If the heart has stopped, trained personnel should immediately begin cardiopulmonary resuscitation (CPR). Seek immediate medical attention.

**SWALLOWING:** CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, give two glasses of water to drink. DO NOT INDUCE VOMITING. Never induce vomiting or give liquids to someone who is unconscious, having convulsions, or unable to swallow. Seek immediate medical attention.

**NOTES TO PHYSICIAN:** There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Any material aspirated during vomiting may cause lung injury. Therefore, emesis should not be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause aspiration (such as: Gastric lavage after endotracheal intubation).

Victims of chemical exposure must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take a copy of label and SDS to physician or health professional with victim.

## **SECTION 5. FIRE-FIGHTING MEASURES**

**FIRE & EXPLOSION PREVENTIVE MEASURES:** Isolate from other materials. Isolate from heat, sparks, electrical equipment and open flame.

**EXTINGUISHING MEDIA:** Use water spray, or water fog extinguishing media.

**SPECIAL FIRE FIGHTING PROCEDURES:** Water spray may be ineffective on fire but can protect fire-fighters & cool closed containers. Use fog nozzles if water is used. Do not enter confined fire-space without full bunker gear. (Helmet with face shield, bunker coats, gloves & rubber boots). Use NIOSH approved positive-pressure self-contained breathing apparatus.

**UNUSUAL EXPLOSION AND FIRE PROCEDURES:** STRONG OXIDIZER! Isolate from other materials, heat, sparks, electrical equipment & open flame. Closed containers may explode if exposed to extreme heat. Applying to hot surfaces requires special precautions.

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

**SPILL AND LEAK RESPONSE AND ENVIRONMENTAL PRECAUTIONS:** Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel.

**PERSONAL PROTECTIVE EQUIPMENT:** The proper personal protective equipment for incidental releases (such as : 1 liter of the product released in a well-ventilated area), use impermeable gloves (triple gloves: rubber gloves and nitrile gloves, over latex gloves), goggles, face shield, and appropriate body protection. In the event of a large release, use impermeable gloves, specific for the material handled, chemically resistant suit and boots, and hard hat. Self-Contained Breathing Apparatus or respirator may be required where engineering controls are not adequate or conditions for potential exposure exist. When respirators are required, select NIOSH/MSHA approved based on actual or potential airborne concentrations in accordance with latest OSHA and/or ANSI recommendations.

**ENVIRONMENTAL PRECAUTIONS:** Stop spill at source. Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of the material. Close or cap valves and/or block or plug hole in leaking container and transfer to another container. Keep from entering storm sewers and ditches which lead to waterways, and if necessary, call the local fire or police department for immediate emergency assistance.

**CONTAINMENT AND CLEAN-UP MEASURES:** Absorb spilled liquid with polypads or other suitable absorbent materials. If necessary, neutralize utilizing suitable buffering material, (acid with soda ash or base with phosphoric acid), and test area with litmus paper to confirm neutralization. Clean up with non-combustible absorbent (such as: sand, soil, and so on). Shovel up and place all spill residue in suitable containers. Dispose of at an appropriate waste disposal facility according to current applicable laws and regulations and product characteristics at time of disposal (see Section 13 - Disposal Considerations).

## **SECTION 7. HANDLING AND STORAGE**

**HANDLING:** Use only with adequate ventilation. Wear OSHA Standard goggles or face shield. Consult Safety Equipment Supplier. Wear goggles, face shield, gloves, apron & footwear impervious to material. Wash clothing before reuse.

**STORAGE:** Isolate from other materials, heat, sparks, electrical equipment open flame. Do not store above 49 C /120 F. Keep container tightly closed & upright when not in use to prevent leakage. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers or in a diked area, as appropriate. Store containers away from incompatible chemicals (see Section 10, Stability and Reactivity). Post "No Smoking" signs in storage and use areas, as appropriate. Empty containers should be handled with care. Never store food, feed, or drinking water in containers which held this product.

## **SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>MATERIAL</b>	<b>OSHA TLV</b>	<b>ACGIH TLV</b>
Hydrogen peroxide	1 ppm	1 ppm

This product contains no EPA Hazardous Air Pollutants (HAP) in amounts >0.1%.

**RESPIRATORY EXPOSURE CONTROLS:** Maintain airborne contaminant concentrations below exposure limits given above. If respiratory protection is needed, use only protection authorized in 29 CFR 1910.134, European Standard EN 149, or applicable state regulations. If adequate ventilation is not available or there is potential for airborne exposure above the exposure limits, a respirator may be worn up to the respirator exposure limitations, check with respirator equipment manufacturer's recommendations/limitations. For a higher level of protection, use positive pressure supplied air respiration protection or Self-Contained Breathing Apparatus or if oxygen levels are below 19.5% or unknown.

**EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATIONS OR IDLH CONDITIONS:** Positive pressure, full-face piece Self-Contained Breathing Apparatus; or positive pressure, full-face piece Self-Contained Breathing Apparatus with an auxilliary positive pressure Self-Contained Breathing Apparatus.

**VENTILATION:** LOCAL EXHAUST: Necessary; MECHANICAL (GENERAL): Necessary; SPECIAL: None; OTHER: None  
Please refer to ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

**EYE PROTECTION:** Splash goggles or safety glasses. Face shields are recommended when the operation can generate splashes, sprays or mists.

(Continued on next page)

## **SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION** (Continued)

**HAND PROTECTION:** Wear appropriate impervious gloves for routine industrial use. Use impervious gloves for spill response.

**BODY PROTECTION:** Use body protection appropriate for task. Cover-all, rubber aprons, or chemical protective clothing made from impervious materials are generally acceptable, depending on the task.

**WORK & HYGIENIC PRACTICES:** Provide readily accessible eye wash stations & safety showers. Wash at end of each shift & before eating, smoking or using the toilet. Remove clothing that becomes contaminated. Destroy contaminated leather articles. Launder or discard contaminated clothing.

## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE:** Liquid, water-white

**ODOR:** None

**pH:** <3.7

**SPECIFIC GRAVITY:** 1.33

**POUNDS/GALLON:** 9.45

**MELTING POINT / FREEZING POINT:** -15 to -33 C / +6 to -27 F

**WATER SOLUBILITY:** Complete

**VAPOR DENSITY (air = 1):** 0.772

**VOCs:** 0.0 Vol%

## **SECTION 10. STABILITY AND REACTIVITY**

**STABILITY:** Stable under normal conditions.

**CONDITIONS TO AVOID:** Excessive heat or contamination could cause product to become unstable.

**MATERIALS TO AVOID:** Dirt, cyanides, reducing agents, wood, paper, other organics and combustibles, iron and other heavy metals, copper alloys and caustics.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxygen (which supports combustion).

**HAZARDOUS POLYMERIZATION:** Will not occur.

## **SECTION 11. TOXICOLOGICAL INFORMATION**

### **ACUTE HAZARDS:**

**Eye and Skin Contact:** Primary irritation to skin, defatting, dermatitis. Liquid is extremely irritating/corrosive to eyes, and may cause irreversible damage including blindness

**Inhalation:** Anesthetic. Irritates respiratory tract. Acute overexposure can cause serious nervous system depression. Vapor harmful.

**Swallowing:** Swallowing can cause abdominal irritation, nausea, vomiting & diarrhea.

### **SUBCHRONIC HAZARDS/CONDITIONS AGGRAVATED:**

Persons with severe skin, liver or kidney problems should avoid use.

### **CHRONIC HAZARDS:**

**Carcinogenicity:** This product has no carcinogens listed by IARC, NTP, NIOSH, OSHA or ACGIH greater than or equal to 0.1%.

**Irritancy:** This product is irritating to contaminated tissue.

**Sensitization:** No component of this product is known to be a sensitizer.

**Mutagenicity:** This product is not reported to produce mutagenic effects in humans.

**Embriotoxocity:** This product is not reported to produce embryotoxic effects in humans.

**Teratogenicity:** This product is not reported to produce teratogenic effects in humans.

**Reproductive Toxicity:** This product is not reported to cause reproductive effects in humans.

### **MAMMALIAN TOXICITY INFORMATION**

LD50(Oral)	1193mg/kg (Rats)
LC50(Inhalation)	>0.17 mg/L (Rats)
LD50(Skin)	>2000 mg/kg (Rabbits)

## **SECTION 12. ECOLOGICAL INFORMATION**

**ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.**

**EFFECT OF MATERIAL ON PLANTS AND ANIMALS:** This product may be harmful or fatal to plant and animal life if released into the environment.

**EFFECT OF MATERIAL ON AQUATIC LIFE:** No information available.

**MOBILITY IN SOIL:** This material is a mobile liquid.

**DEGRADABILITY:** This product is completely biodegradable.

**ACCUMULATION:** This product does not accumulate or biomagnify in the environment.

## **SECTION 13. DISPOSAL CONSIDERATIONS**

Processing, use or contamination may change the waste disposal requirements. Do not dispose of on land, in surface waters, or in storm drains. Waste should be recycled or disposed of in accordance with regulations. Large amounts should be collected for reuse or consigned to licensed hazardous waste haulers for disposal.

**ALL DISPOSAL MUST BE IN ACCORDANCE WITH ALL FEDERAL, STATE, PROVINCIAL, AND LOCAL REGULATIONS. IF IN DOUBT, CONTACT PROPER AGENCIES. EPA CHARACTERISTICS: D001, D002**

## **SECTION 14. TRANSPORTATION INFORMATION**

**DOT/TDG SHIP NAME:** UN2014, Hydrogen peroxide, aqueous solutions, 5.1, (8), PGII

**DRUM LABEL:** Oxidizer, Corrosive

**IATA / ICAO:** UN2014, Hydrogen peroxide, aqueous solutions, 5.1, (8), PGII

**IMO / IMDG:** UN2014, Hydrogen peroxide, aqueous solutions, 5.1, (8), PGII

**EMERGENCY RESPONSE GUIDEBOOK NUMBER:** 140

## **SECTION 15. REGULATORY INFORMATION**

**EPA REGULATION: SARA SECTION 311/312 HAZARDS:** Acute health, Fire

All components of this product are on the TSCA list.

This material contains no known products restricted under SARA Title III, Section 313 in amounts greater or equal to 1%.

## **SECTION 16. OTHER INFORMATION**

**REVISION DATE:** Mar. 20, 2016

**HMIS:** Health(NFPA) = 3, Health(HMIS) = 3, Flammability = 0, Physical Hazard = 1

(Personal Protection Rating to be supplied by user based on use conditions.)

This information is intended solely for the use of individuals trained in the NFPA & HMIS hazard rating systems.

The information contained in this SDS was obtained from current and reliable sources. However, the data are provided without any warranty, expressed or implied, regarding its correctness or accuracy, since the conditions of handling, storage and disposal of this product are beyond the control of this Company. The Company is not responsible for loss, injury and expense arising out of the product's improper use. No warranty, expressed or implied, shall be established by any statement herein. Various government agencies may have specific regulations regarding the transportation, handling, storage, use or disposal of this product which may not be covered by this SDS. The user is responsible for full compliance.