

# Safety Data Sheet

## KOVA® LIQUA-TROL CONTROLS

### 1 . Product and company identification

<b>Product name</b>	: KOVA® LIQUA-TROL CONTROLS
<b>Component</b>	: Liqua-Trol Abnormal - Level I      37036, 87112, 87112E, 87110, 87111, 87176, 87177, 87111E, 87176E, 87177E Liqua-Trol Normal - Level II      37036, 87112, 87112E, 87122, 87123, 87122E, 87123E
<b>Manufacturer / Supplier</b>	: Kova International, Inc. 7272 Chapman Avenue, Suite B Garden Grove, CA 92841
<b>Emergency telephone number</b>	: Tel: 1-714-902-1700 Fax: 1-714-908-7945 Business hours: 8:00 a.m. - 5:00 p.m., PST, Monday - Friday
<b>Use of the substance/preparation</b>	: For <i>in vitro</i> diagnostic use only. KOVA Liqua-TROL Level I (Abnormal), Level II (Normal), Abnormal with Microscopics, Normal with Microscopic Additives.
<b>Validation date</b>	: 06/17/2009

### 2 . Hazards identification

<b>Physical state</b>	: Liqua-Trol Abnormal - Level I      Liquid. Liqua-Trol Normal - Level II      Liquid.
<b>OSHA/HCS status</b>	: Liqua-Trol Abnormal - Level I      While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.  Liqua-Trol Normal - Level II      This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Emergency overview-Label Statement</b>	: Liqua-Trol Abnormal - Level I      NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.  Liqua-Trol Normal - Level II      CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.  Liqua-Trol Abnormal - Level I      No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing. Liqua-Trol Normal - Level II      Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Contains material that may cause target organ damage, based on animal data.  Liqua-Trol Abnormal - Level I      Not available. Liqua-Trol Normal - Level II      Contains material which may cause damage to the following organs: mucous membranes, skin.
<b>Potential acute health effects</b>	
<b>Eyes</b>	: Liqua-Trol Abnormal - Level I      No known significant effects or critical hazards. Liqua-Trol Normal - Level II      No known significant effects or critical hazards.
<b>Skin</b>	: Liqua-Trol Abnormal - Level I      No known significant effects or critical hazards. Liqua-Trol Normal - Level II      No known significant effects or critical hazards.

## 2 . Hazards identification

<b>Inhalation</b>	: Liqua-Trol Abnormal - Level I	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
	: Liqua-Trol Normal - Level II	No known significant effects or critical hazards.
<b>Ingestion</b>	: Liqua-Trol Abnormal - Level I	No known significant effects or critical hazards.
	: Liqua-Trol Normal - Level II	Harmful if swallowed.
<b>Medical conditions aggravated by over-exposure</b>	: Liqua-Trol Abnormal - Level I	Not applicable.
	: Liqua-Trol Normal - Level II	Repeated or prolonged exposure to the substance can produce target organs damage.
<b>Over-exposure signs/symptoms</b>	: Liqua-Trol Abnormal - Level I	Not applicable.
	: Liqua-Trol Normal - Level II	Not applicable.

See toxicological information (section 11)

## 3 . Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>%</u>
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### Liqua-Trol Normal - Level II

Disodium hydrogenorthophosphate

7558-79-4

0.5 - 1.5

**There are no ingredients or additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

## 4 . First aid measures

<b>Eye contact</b>	: Liqua-Trol Abnormal - Level I	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
	: Liqua-Trol Normal - Level II	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
<b>Skin contact</b>	: Liqua-Trol Abnormal - Level I	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
	: Liqua-Trol Normal - Level II	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
<b>Inhalation</b>	: Liqua-Trol Abnormal - Level I	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.
	: Liqua-Trol Normal - Level II	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.

## 4 . First aid measures

<b>Ingestion</b>	: Liqua-Trol Abnormal - Level I	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
	: Liqua-Trol Normal - Level II	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
<b>Protection of first-aiders</b>	: Liqua-Trol Abnormal - Level I	Not applicable.
	: Liqua-Trol Normal - Level II	Not applicable.
<b>Notes to physician</b>	: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.	

## 5 . Fire-fighting measures

<b>Flammability of the product</b>	: Liqua-Trol Abnormal - Level I	Non-flammable.
	: Liqua-Trol Normal - Level II	Non-flammable.
<b>Products of combustion</b>	: Liqua-Trol Abnormal - Level I	Decomposition products may include the following materials: carbon oxides nitrogen oxides sulfur oxides metal oxide/oxides
	: Liqua-Trol Normal - Level II	Decomposition products may include the following materials: phosphorus oxides metal oxide/oxides
<b>Extinguishing media</b>		
<b>Suitable</b>	: Liqua-Trol Abnormal - Level I	Use an extinguishing agent suitable for the surrounding fire.
	: Liqua-Trol Normal - Level II	Use an extinguishing agent suitable for the surrounding fire.
<b>Not suitable</b>	: Liqua-Trol Abnormal - Level I	Not applicable.
	: Liqua-Trol Normal - Level II	Not applicable.
<b>Special protective equipment for fire-fighters</b>	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.	

## 6 . Accidental release measures

<b>Personal precautions</b>	: Liqua-Trol Abnormal - Level I	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
	: Liqua-Trol Normal - Level II	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

## 6 . Accidental release measures

<b>Environmental precautions</b>	: Liqua-Trol Abnormal - Level I	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	: Liqua-Trol Normal - Level II	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods for cleaning up

<b>Small spill</b>	: Liqua-Trol Abnormal - Level I	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	: Liqua-Trol Normal - Level II	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## 7 . Handling and storage

<b>Handling</b>	: Liqua-Trol Abnormal - Level I	Wash thoroughly after handling.
	: Liqua-Trol Normal - Level II	Wash thoroughly after handling.
<b>Storage</b>	: Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.	

## 8 . Exposure controls/personal protection

### Product name Exposure limits

#### United States

No exposure limit value known.

#### **Consult local authorities for acceptable exposure limits.**

<b>Engineering measures</b>	: No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
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### Personal protection

<b>Eyes</b>	: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dust.
<b>Skin</b>	: Chemical resistant protective gloves and clothing are recommended. The choice of protective gloves or clothing must be based on chemical resistance and other use requirements. Generally, BUNA-N offers acceptable chemical resistance. Individuals who are acutely and specifically sensitive to this chemical may require additional protective clothing.
<b>Respiratory</b>	: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## 8 . Exposure controls/personal protection

- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Other protection** : Not available.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## 9 . Physical and chemical properties

- Physical state** : Liqua-Trol Abnormal - Level I Liquid.  
Liqua-Trol Normal - Level II Liquid.
- Color** : Liqua-Trol Abnormal - Level I Amber. Red.  
Liqua-Trol Normal - Level II Green. / Yellow.
- pH** : Liqua-Trol Abnormal - Level I 7.5 to 8 [Basic.]  
Liqua-Trol Normal - Level II 7.5 to 8 [Basic.]
- Boiling/condensation point** : Liqua-Trol Abnormal - Level I ~ 100°C (212°F)  
Liqua-Trol Normal - Level II ~100°C (212°F)
- Solubility** : Liqua-Trol Abnormal - Level I Easily soluble in the following materials: cold water and hot water.  
Liqua-Trol Normal - Level II Easily soluble in the following materials: cold water and hot water.

## 10 . Stability and reactivity

- Stability and reactivity** : The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.
- Incompatibility with various substances** : Incompatible with: strong acids, oxidizing agents, alkalis, metals and heat.
- Hazardous decomposition products** : Liqua-Trol Abnormal - Level I Under normal conditions of storage and use, hazardous decomposition products should not be produced.  
Liqua-Trol Normal - Level II Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11 . Toxicological information

### Acute toxicity

- Eyes** : Liqua-Trol Abnormal - Level I No known significant effects or critical hazards.  
Liqua-Trol Normal - Level II No known significant effects or critical hazards.
- Skin** : Liqua-Trol Abnormal - Level I No known significant effects or critical hazards.  
Liqua-Trol Normal - Level II No known significant effects or critical hazards.
- Inhalation** : Liqua-Trol Abnormal - Level I Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.  
Liqua-Trol Normal - Level II No known significant effects or critical hazards.

## 11 . Toxicological information

**Ingestion** : Liqua-Trol Abnormal - Level I No known significant effects or critical hazards.  
Liqua-Trol Normal - Level II Harmful if swallowed.

### Potential chronic health effects

**Chronic effects** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.

### Over-exposure signs/symptoms

**Inhalation** : No specific data.  
**Ingestion** : Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.  
**Skin** : No specific data.  
**Eyes** : No specific data.  
**Target organs** : Liqua-Trol Abnormal - Level I Not available.  
Liqua-Trol Normal - Level II Contains material which may cause damage to the following organs: mucous membranes, skin.  
**Other adverse effects** : Liqua-Trol Abnormal - Level I To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.  
Liqua-Trol Normal - Level II To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

## 12 . Ecological information

**Environmental effects** : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Biodegradability

**Conclusion/Summary** : This product is unlikely to biodegrade at a significant rate.

**Other adverse effects** : No known significant effects or critical hazards.

## 13 . Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.**

**The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.**

**Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.**

## 14 . Transport information

### Regulatory information

DOT / IMDG / IATA : Not regulated.

## 15 . Regulatory information

<b>HCS Classification</b>	: Liqua-Trol Abnormal - Level I	Not regulated.
	: Liqua-Trol Normal - Level II	Target organ effects
<b>U.S. Federal regulations</b>	: Liqua-Trol Abnormal - Level I	Not available.
	: Liqua-Trol Normal - Level II	Contains material which may cause damage to the following organs: mucous membranes, skin.
	: Liqua-Trol Abnormal - Level I	TSCA 5(a)2 final significant rules: Sodium nitrite TSCA 8(a) PAIR: Glutaral <b>United States inventory (TSCA 8b):</b> At least one component is not listed. TSCA 8(d) H and S data reporting: Sodium nitrite: 1991; Glutaral: 1991 TSCA 12(b) annual export notification: Sodium nitrite TSCA precursor chemical list: Potassium cyanide
	: Liqua-Trol Normal - Level II	<b>United States inventory (TSCA 8b):</b> At least one component is not listed.
	: Liqua-Trol Abnormal - Level I	<b>SARA 302/304/311/312 extremely hazardous substances:</b> No products were found. <b>SARA 302/304 emergency planning and notification:</b> No products were found. <b>SARA 302/304/311/312 hazardous chemicals:</b> No products were found. <b>SARA 311/312 MSDS distribution - chemical inventory - hazard identification:</b> No products were found.
	: Liqua-Trol Normal - Level II	<b>SARA 302/304/311/312 extremely hazardous substances:</b> No products were found. <b>SARA 302/304 emergency planning and notification:</b> No products were found. <b>SARA 302/304/311/312 hazardous chemicals:</b> Disodium hydrogenorthophosphate <b>SARA 311/312 MSDS distribution - chemical inventory - hazard identification:</b> Disodium hydrogenorthophosphate: Immediate (acute) health hazard
	: Liqua-Trol Abnormal - Level I	<b>Clean Water Act (CWA) 307:</b> Tripotassium hexacyanoferrate; Potassium cyanide
	: Liqua-Trol Normal - Level II	<b>Clean Water Act (CWA) 307:</b> No products were found.
	: Liqua-Trol Abnormal - Level I	<b>Clean Water Act (CWA) 311:</b> Sodium nitrite; Potassium cyanide; Disodium hydrogenorthophosphate; Ammonium oxalate monohydrate
	: Liqua-Trol Normal - Level II	<b>Clean Water Act (CWA) 311:</b> Disodium hydrogenorthophosphate
	: Liqua-Trol Abnormal - Level I	<b>Clean Air Act (CAA) 112 accidental release prevention:</b> No products were found.
	: Liqua-Trol Normal - Level II	<b>Clean Air Act (CAA) 112 accidental release prevention:</b> No products were found.
	: Liqua-Trol Abnormal - Level I	<b>Clean Air Act (CAA) 112 regulated flammable substances:</b> No products were found.
	: Liqua-Trol Normal - Level II	<b>Clean Air Act (CAA) 112 regulated flammable substances:</b> No products were found.

## 15 . Regulatory information

### State regulations

Liqua-Trol Abnormal - Level I

Liqua-Trol Normal - Level II

: Liqua-Trol Abnormal - Level I

**Clean Air Act (CAA) 112 regulated toxic substances:** No products were found.

**Clean Air Act (CAA) 112 regulated toxic substances:** No products were found.

**Connecticut Carcinogen Reporting:** None of the components are listed.

**Connecticut Hazardous Material Survey:** None of the components are listed.

**Florida substances:** None of the components are listed.

**Illinois Chemical Safety Act:** None of the components are listed.

**Illinois Toxic Substances Disclosure to Employee Act:** None of the components are listed.

**Louisiana Reporting:** None of the components are listed.

**Louisiana Spill:** None of the components are listed.

**Massachusetts Spill:** None of the components are listed.

**Massachusetts Substances:** None of the components are listed.

**Michigan Critical Material:** None of the components are listed.

**Minnesota Hazardous Substances:** None of the components are listed.

**New Jersey Hazardous Substances:** None of the components are listed.

**New Jersey Spill:** None of the components are listed.

**New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.

**New York Acutely Hazardous Substances:** None of the components are listed.

**New York Toxic Chemical Release Reporting:** None of the components are listed.

**Pennsylvania RTK Hazardous Substances:** None of the components are listed.

**Rhode Island Hazardous Substances:** None of the components are listed.

Liqua-Trol Normal - Level II

**Connecticut Carcinogen Reporting:** None of the components are listed.

**Connecticut Hazardous Material Survey:** None of the components are listed.

**Florida substances:** None of the components are listed.

**Illinois Chemical Safety Act:** None of the components are listed.

**Illinois Toxic Substances Disclosure to Employee Act:** None of the components are listed.

**Louisiana Reporting:** None of the components are listed.

**Louisiana Spill:** None of the components are listed.

**Massachusetts Spill:** None of the components are listed.

**Massachusetts Substances:** The following components are listed: Disodium hydrogenorthophosphate

**Michigan Critical Material:** None of the components are listed.

**Minnesota Hazardous Substances:** None of the components are listed.

**New Jersey Hazardous Substances:** The following components are listed: Disodium hydrogenorthophosphate

**New Jersey Spill:** None of the components are listed.

**New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.

**New York Acutely Hazardous Substances:** The following components are listed: Disodium hydrogenorthophosphate

**New York Toxic Chemical Release Reporting:** None of the



## 15 . Regulatory information

components are listed.

**Pennsylvania RTK Hazardous Substances:** The following components are listed: Disodium hydrogenorthophosphate

**Rhode Island Hazardous Substances:** None of the components are listed.

**State regulations - California Prop. 65** : No products were found.

## 16 . Other information

<b>Label requirements</b>	: Liqua-Trol Abnormal - Level I	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
	Liqua-Trol Normal - Level II	CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

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