SAFETY DATA SHEET

PRODUCT NAME **KEM AQUA Check Solution 4**

Data of issue 6/11/2018
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1. Identification of the substance or mixture and the supplier

Product name	KEM AQUA Check Solution 4
SDS No.	GHS-0076E
Name of supplier	Kyoto Electronics Manufacturing Co., Ltd.
Address	68 Ninodan-cho, Shinden, Kisshoin, Minami-ku, Kyoto, Japan
Division	Quality Assurance Department
Phone	+81-75-691-4121
Fax	+81-75-691-4127

Recommended uses and restrictions on use

Recommended use	For analysis
Restrictions on use	When using for purposes other than those recommended, consult a specialist.

2. Hazard identification

GHS classification

Health hazards

Serious eye damage / Eye irritation	Category 2A

GHS label elements

Hazard pictograms

Signal words	Warning
Hazard statements	H319 Causes serious eye irritation
Precautionary statement	
Prevention	P264 Wash skin thoroughly after handling. P280 Wear eye protection / face protection.
Response	P305+P351+P338 IF IN EYES Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice /

attention.

Other hazards which do not result in classification None known.

3. Composition/Information on ingredients

substance / mixture mixture

Components

No.	Chemical name	CAS No.	Concentration (% w/w)	ENCS / ISHL number
1	Propylene carbonate	108-32-7	99.6	5-524
2	Water	7732-18-5	0.4	–

4. First-aid measures

General advice	Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Do not leave the victim unattended.
In case of eye contact	Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/ attention.
If swallowed	Rinse mouth. If swallowed, DO NOT induce vomiting. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	Causes serious eye irritation.
Notes to physician	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	Carbon dioxide (CO2) Dry sand Regular foam Vermiculite
Unsuitable extinguishing media	High volume water jet

Specific hazards during fire fighting	Do not allow run-off from fire fighting to enter drains or water courses.
Specific extinguishing methods	Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for fire-fighters	Use personal protective equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Use personal protective equipment. Remove all sources of ignition.
Environmental precautions	Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling

Advice on protection against fire and explosion	Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open flames, hot surfaces and sources of ignition.
Advice on safe handling	Take precautionary measures against static discharges. Keep away from fire, sparks and heated surfaces. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only in area provided with appropriate exhaust ventilation.
Avoidance of contact	No data available
Hygiene measures	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

Storage

Conditions for safe storage	Keep in a well-ventilated place. Store at room temperature. To maintain product quality, do not store in heat or direct sunlight.

	Keep container tightly closed.
Further information on storage stability	No decomposition if stored and applied as directed.

8. Exposure controls/Personal protection

Threshold limit value and permissible exposure limits for each component in the work environment

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection	Suitable respiratory equipment
Hand protection Material	Protective gloves
Eye protection	Safety glasses
Skin and body protection	Protective suit

9. Physical and chemical properties

Physical state	Liquid.
Color	colorless, transparent
Odor	odorless
Melting point / Freezing point	- 49.0℃
Initial boiling point and boiling range	242℃
Flammability (liquids)	No data available
Lower explosion limit and upper explosion limit / flammability limit	
Upper explosion limit / Upper flammability limit	No data available
Lower explosion limit / Lower flammability limit	No data available
Flash point	139℃ (Cleveland open cup)
Decomposition temperature	No data available
pH	No data available
Autoignition temperature	510.0℃
Self-Accelerating decomposition temperature (SADT)	No data available
Solubility(ies)	
Water solubility	83 g/L
Partition coefficient: n-octanol/water	No data available
Vapor pressure	No data available
Density and / or relative density Relative density	1.206 (20℃)
Density	No data available

Relative vapor density	No data available
Particle characteristics Particle size	No data available

10. Stability and reactivity

Reactivity	No decomposition if stored and applied as directed.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	No decomposition if stored and applied as directed.
Conditions to avoid	No data available
Incompatible materials	No data available
Hazardous decomposition products	No data available

11. Toxicological information

Acute toxicity	Not classified based on available information.
propylene carbonate	
Acute oral toxicity	LD50 (Rat) >5,000mg/kg
Acute inhalation toxicity	LC0 (Rat) 0.041mg/L，Exposure time 8 h, Test atmosphere vapor
Acute dermal toxicity	LD50 (Rabbit) >20,000mg/kg
	LD50 (Rabbit) >3,000mg/kg
Skin corrosion/irritation	Not classified based on available information.
Serious eye damage/eye irritation	Causes serious eye irritation.
Product	Causes serious eye irritation.
propylene carbonate	Causes serious eye irritation.
Respiratory or skin sensitization	
Skin sensitization	Not classified based on available information.
Respiratory sensitization	Not classified based on available information.
Germ cell mutagenicity	Not classified based on available information.
Carcinogenicity	Not classified based on available information.
Reproductive toxicity	Not classified based on available information.
STOT-single exposure	Not classified based on available information.
STOT-repeated exposure	Not classified based on available information.
Aspiration toxicity	Not classified based on available information.
Remarks	No data available

12. Ecological information

Ecotoxicity

propylene carbonate	
Toxicity to fish	LC50 (Cyprinus carpio (Carp)) >1,000 mg/L, Exposure time 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 (Daphnia magna (Water flea)) >1,000 mg/L, Exposure time 48 h Tested according to Directive 92/69/EEC.
Toxicity to algae/aquatic plants	EC50 (Desmodesmus subspicatus (green algae)) >900 mg/L, Exposure time 72 h
Persistence and degradability	
propylene carbonate	rapidly biodegradable, Biodegradation 92 %, Exposure time 28 d (OECD Test Guideline 301C), GLP yes
Bioaccumulative potential	
propylene carbonate	Partition coefficient: n-octanol/water log Pow = - 0.41
Mobility in soil	No data available
Hazardous to the ozone layer	Not applicable
Other adverse effects	No data available

13. Disposal considerations

Waste from residues	Can be incinerated, when in compliance with local regulations. Send to a licensed waste management company.
Contaminated packaging	Empty remaining contents. Empty containers should be taken to an approved waste handling site for recycling or disposal. Dispose of contents/ container to an approved waste disposal plant.

14. Transport information

International Regulations

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation	Please refer to the law and local regulations, etc. in each country
Special precautions for user	Not applicable

15. Regulatory information

16. Other information

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System.

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