

SAFETY DATA SHEET

PRODUCT NAME **30% Ethanol Solution**

Date of issue 19/1/2011

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Last confirmation

1. Identification of the substance or mixture and the supplier

Product name 30% Ethanol Solution

SDS No. GHS-0133E

Name of supplier Kyoto Electronics Manufacturing Co., Ltd.

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Division Quality Assurance Department

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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

Physical hazards

Flammable liquids

Category 3

Health hazards

Serious eye damage / Eye irritation

Category 2B

Carcinogenicity

Category 1A

Reproductive toxicity

Category 1A

Specific target organ toxicity (single exposure)

Category 3 (airway irritation, anesthetic effects)

Specific target organ toxicity (repeated exposure)

Category 2 (central nervous system)

Category 1 (liver)

GHS label elements

Hazard pictograms



Signal words

Danger

Hazard statements :

H226 Flammable liquids and vapors.
H320 Eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H350 May cause cancer.
H360 May cause adverse effects on fertility or the unborn child.
H372 Causes damage to organs (Central nervous system, Visual organs) through prolonged or repeated exposure.
H373 May cause damage to Central Nervous System through prolonged or repeated exposure.

Precautionary statement

Prevention

P201 Obtain special instructions before use.
P210 Keep away from heat / sparks / open flames / hot ignition sources. No smoking.
P233 Keep container tightly closed.
P260 Do not breathe dust / fume / gas / mist / vapors / spray.
P280 Wear protective gloves / protective clothing/eye protection / face protection.

Response

P308+P313 IF exposed or concerned: Get medical advice/attention.
P370+P378 In case of fire: Use appropriate extinguishing media to extinguish.

Storage

P403 + P235 Store in a well-ventilated place. Keep cool.

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 | Ethanol | 64-17-5 | 24.7 | 2-202 |
| 2 | Water | 7732-18-5 | 75.3 | — |

4. First-aid measures

| | |
|---|---|
| General advice | Evacuate danger area. |
| | Consult a doctor/physician. |
| | Show this Safety Data Sheet to the doctor/physician. |
| | Do not leave victim alone. |
| If inhaled | Remove person to fresh air and keep at rest in a position comfortable for breathing. Call a doctor/physician if you feel unwell. |
| In case of skin contact | Wash with soap and plenty of water. |
| | Wash contaminated clothing before reuse. |
| | Remove contaminated clothing and shoes. |
| | If skin irritation or rash occurs: Get medical advice/attention. |
| In case of eye contact | If product gets into eyes, rinse immediately with plenty of water and seek medical attention. |
| | Protect uninjured eyes. |
| | Keep eyes wide open while rinsing. |
| | If eye irritation persists, consult a medical specialist. |
| If swallowed | Remove contact lenses, if present and easy to do. Continue rinsing. |
| | Rinse mouth. |
| | Do not induce vomiting. |
| | Take victim to hospital immediately. |
| Most important symptoms and effects, both acute and delayed | Eye irritation |
| Notes to physician | Treat symptomatically. |

5. Fire-fighting measures

| | |
|--|---|
| Suitable extinguishing media | Spray water, carbon dioxide (CO ₂), dry sand, fire retardant |
| Unsuitable extinguishing media | Solid/strong water stream |
| Specific hazards during fire fighting | In case of fire, prevent water for firefighting from flowing into drains or waterways. |
| Specific extinguishing methods | Contaminated fire wastewater must be collected. Do not discharge into drainage systems. |
| | Fire residues and contaminated fire wastewater must be disposed of in accordance with applicable regulations. |
| Special protective equipment for fire-fighters | Wear self-contained breathing apparatus when fighting fires, if necessary. |

6. Accidental release measures

| | |
|---|--|
| Personal precautions, protective equipment and emergency procedures | <p>Use protective equipment.</p> <p>Ensure good ventilation.</p> <p>Remove nearby ignition sources.</p> <p>Evacuate to a safe area.</p> |
| Environmental precautions | <p>Do not pour this product into drains.</p> <p>Stop any leaks or spills only when safe to do so.</p> <p>If product contaminates rivers, lakes or drains, notify relevant authorities.</p> |
| Methods and materials for containment and cleaning up | <p>Contain spillage and collect with non-combustible absorbent material (sand, earth, diatomaceous earth, vermiculite, etc.) and place in container for disposal in accordance with local/national regulations (see section 13).</p> |

7. Handling and storage

Handling

| | |
|-------------------------------|--|
| Technical measures | <p>Do not spray onto open flames or hot surfaces.</p> <p>Take necessary measures to prevent static discharges (which may ignite organic vapours).</p> <p>Keep away from flames, heat and sources of ignition.</p> |
| Precautions for safe handling | <p>Do not breathe vapour/dust.</p> <p>Avoid contact with skin and eyes.</p> <p>Smoking, eating and drinking are prohibited in work area.</p> <p>Take precautionary measures against static discharge.</p> <p>Ensure that work room is well ventilated and exhausted.</p> <p>Wash skin thoroughly after handling.</p> |
| Avoiding incompatibilities | No information |
| Hygiene measures | <p>When using do not eat or drink.</p> <p>When using do not smoke.</p> <p>Wash hands before breaks and at the end of workday.</p> |

Storage

| | |
|--|---|
| Conditions for safe storage | <p>Keep container tightly closed in a dry, well-ventilated place.</p> <p>Store at room temperature.</p> <p>To maintain product quality, store away from heat and direct sunlight.</p> |
| Further information on storage stability | No decomposition will occur if stored and used as directed. |

8. Exposure controls/Personal protection

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

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Reference concentration / Permissible concentration | Basis |
|------------|---------|----------------------------------|--|-------|
| Ethanol | 64-17-5 | STEL | 1000 ppm | ACGIH |

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 and transparent |
| Odor | Peculiar odor |
| Melting point / Freezing point | No data available |
| Initial boiling point and boiling range | No data available |
| 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 | 29.4 °C |
| Decomposition temperature | No data available |
| pH | No data available |
| Autoignition temperature | No data available |
| Self-Accelerating decomposition temperature (SADT) | No data available |
| Viscosity | |
| Viscosity, kinematic | No data available |
| Solubility(ies) | |
| Water solubility | Easily soluble |
| Partition coefficient: n-octanol/water | No data available |
| Vapor pressure | No data available |
| Density and / or relative density Relative density | 0.964 (15 °C) |
| Relative vapor density | No data available |

Particle characteristics Particle size

No data available

10. Stability and reactivity

| | |
|------------------------------------|--|
| Reactivity | No data available |
| Chemical stability | May be altered by light. |
| Possibility of hazardous reactions | No data available |
| Conditions to avoid | Avoid contact with heat, flames, sparks, high temperatures and direct sunlight, static electricity and sparks. |
| Incompatible materials | No data available |
| Hazardous decomposition products | Carbon monoxide, carbon dioxide |

11. Toxicological information

Acute toxicity

Ethanol

| | |
|-----------------------------------|--|
| Acute oral toxicity | LD50 (Rat) 15,010 mg/kg |
| Acute inhalation toxicity | LC50 (Rat) 124.7 mg/L, Exposure time 4 h, test environment vapor |
| Acute dermal toxicity | LDLo (Rabbit) 20,000 mg/kg |
| Skin corrosion/irritation | Not classified based on available information. |
| Serious eye damage/eye irritation | 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 | Suspected of causing cancer. |
| Reproductive toxicity | May damage fertility or the unborn child. |
| STOT-single exposure | May cause respiratory irritation. May cause drowsiness or dizziness. This substance or mixture is classified as a specific target organ toxicant, single exposure, category 3 with airway irritation. This substance or mixture is classified as a specific target organ toxicant, single exposure, category 3 with anesthetic effects. |
| STOT-repeated exposure | May cause organ (central nervous system) damage through prolonged or repeated exposure. May cause damage to organs (liver) due to long-term or repeated exposure. |
| Aspiration toxicity | Not classified based on available information. |
| Remarks | Possible symptoms of overexposure include headache, dizziness, fatigue, |

nausea, and vomiting.

Concentrations significantly higher than the TLV may cause coma effects.

Solvents may debride the skin.

12. Ecological information

Ecotoxicity

Ethanol

Toxicity to fish LC50 (Oncorhynchus mykiss (rainbow trout)) 13,000 mg/L, Exposure time 96 h

Toxicity to daphnia and other aquatic invertebrates EC50 (Daphnia magna (Water flea)) 12,340 mg/L, Exposure time 48 h

Toxicity to algae/aquatic plants EC50 (Lemna minor (duckweed)) 3,690 mg/L, End point Growth inhibition, Exposure time 7 Days

NOEC (Lemna gibba (gibbous duckweed)) 280 mg/L, End point Growth inhibition, Exposure time 7 Days

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) NOEC (Ceriodaphnia dubia (Water flea)) 9.6 mg/L, End point Reproductive inhibition, Exposure time 10 Days

Persistence and degradability

Ethanol Biochemical oxygen demand rapidly biodegradable, Biodegradation 89 %,

Bioaccumulative potential

Ethanol Partition coefficient: n-octanol/water log Pow = - 0.31

Mobility in soil No data available

Hazardous to the ozone layer Not applicable

Other adverse effects In case of non-professional handling or disposal, environmental hazards cannot be excluded.

13. Disposal considerations

Waste from residues Do not pour this product into drains, waterways or on the ground.
Do not contaminate ponds, waterways or ditches with chemicals or used containers.
Transfer to a licensed waste disposal company.

Contaminated packaging Empty remaining container.
Dispose of as with full container.
Do not reuse empty container.

14. Transport information

International Regulations

IATA-DGR

| | |
|----------------------|---|
| UN / ID No. | UN1170 |
| Proper shipping name | ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) |
| Class | 3 |
| Packing group | II |

IMDG-Code

| | |
|----------------------|---|
| UN No. | UN1170 |
| Proper shipping name | ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) |
| Class | 3 |
| Packing group | II |
| Marine pollutant | no |

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

Citations/References

NITE-Gmiccs (National Institute of Technology and Evaluation)

NITE-CHRIP (National Institute of Technology and Evaluation)

Workplace Safety Site (Ministry of Health, Labor and Welfare)

SDS from various upstream manufacturers

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.