

Material Safety Data Sheet

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Reference No. 00036-06E

1. Chemical Product & Company Identification

Product Name : AURORA BRINE P
Manufacturer's Name : Tokyo Fine Chemical Co., Ltd.
Manufacturer's Address : Bussan Bldg., 1-4-14, Nishi-Shinbashi, Minato-Ku,
Tokyo, Japan 105-0003
Emergency Contact : Yokosuka Factory - Responsible Care Department.
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Natsushima-Cho, Yokosuka-City, Kanagawa Pref., Japan
Date Prepared : July 14th, 2004 <1st version>
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2. Hazards Identification

- *GHS Classification* : Not applicable.
- *Hazards Not Classified* : May irritate to eyes and skin.
- *Environmental Toxicity* : Not applicable.
- *Immediate Health Effects*
 - Eye* : Not expected cause prolonged or significant eye irritation.
 - Skin* : Contact with the skin is not expected to cause prolonged or significant irritation.
 - Ingestion* : Not expected to be harmful if swallowed.
 - Inhalation* : Not expected to be harmful if inhalation.

3. Composition / Information on Ingredients

Substance / Mixture : Mixture

Ingredient and Content

<i>Ingredient (Chemical Name)</i>	: Propylene glycol	Corrosion inhibitor	Water
<i>Content (wt. %)</i>	: 60 ~ 65	1 ~ 5	30 ~ 39
<i>CAS No.</i>	: 57-55-6		7732-18-5
<i>Reference No. in Gazetted List in Japan</i>	: (2) - 234		
<i>Chemical Formula</i>	: HOCH(CH ₃)CH ₂ OH		H ₂ O

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4. First Aid Measures

- Inhalation* : No hazard in normal industrial use. If exposed to excessive levels of mist, remove to fresh air and take medical advice from a doctor if cough or other symptoms develop.
- Skin Contact* : Immediately wash the affected spot of skin with soap and water. Seek medical attention if an adverse change is perceived in the appearance of the skin, or if the pain is not removed within a short time.
- Eye Contact* : Take off contact lenses unless it is difficult to do so. Rinse the affected eyes with clean water for at least 15 minutes. Check with the doctor as soon as possible. When rinsing the eyes, keep the eyelids wide open so that rinse water can fully reach all parts of the affected eyes.
- Ingestion* : If swallowed, do not induce vomiting. Give to the victim a glass of water. Call a doctor immediately. Never give anything by mouth to an unconscious person
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5. Fire Fighting Measures

- Fire Extinguishing Media* : Carbon dioxide, dry chemical powder, alcohol-resistant foam and a large amount of spray water are effective.
- Fire Fighting Measures* : Shut out all the people except fire fighters from the fire spot. Fire fighters should wear a self-contained breathing apparatus for protection and use spray water, dry chemical powder and carbon dioxide for first fire fighting. To cope with intensive firing, alcohol-resistant foam should be used to intercept the air effectively. Spray water from a safe distance to cool and protect surrounding area. Remove flammable goods or containers from fire spot if possible.

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6. Accidental Release Measures

Steps to be taken in case the material is released or spilled

- 1) *Remove sources of ignition and shut out people from the contaminated area immediately. Wear protective clothes and apparatus to avoid contact with splash of the material or inhalation of gas. Stop leak if possible in case of no human risk. Get some proper extinguishing apparatus.*
 - 2) *Small spills : Wipe up with sawdust or cloth. Collect them into a closable container for disposal. Clean the contaminated area with a large amount of water and take necessary steps to prevent spills from entering into public sewers, watercourses, or other.*
 - 3) *Large spills : Make a dike to prevent the spills from spreading out and collect them in a safe retaining area for disposal. Care should be taken to prevent spills from entering into public sewers, watercourses, or other.*
 - 4) *In case the leak or spill takes place indoors, open windows and doors to get sufficient ventilation.*
 - 5) *Prevent spills from entering into a river or public sewers, watercourses, or other.*
 - 6) *Dispose of the material in accordance with local regulations.*
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7. Handling & Storage

Handling : Avoid inhalation and prevent the substance from contacting eyes, mucous membrane and skin. Wear safety goggles, rubber gloves, etc. for protection. Care should be taken to avoid leaks or spills and work in a windward area. When the substance is used indoors, necessary steps should be taken to avoid evaporation of it and use enough local exhaust. Wash hands and eyes sufficiently after handling the substance, and change clothes if it is contaminated or stained with the substance. Avoid leaks, spills, splashes or

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evaporation of the substance and do not use it in an area where any source of fire, sparks, or others exists. Be careful enough to avoid tumbling the container for the substance and handle it in accordance with local Fire Service Law or regulations.

Storage : While the substance is not used, keep it in a sealed container (drum) that is strong enough against corrosion or breakage, and store the container in a cool and dark room with proper ventilation, where direct sunlight or any source of combustion never exists.

8. Exposure Controls / Personal Protection

Control Limit Values : Not established

Threshold Limit Values - Japan Industrial Hygiene Society (2004) : Not established

ACGIH (2004) : Not established

Engineering Measures : Facilities storing or utilizing this substance should be equipped with an eyewash unit and safety shower in work area.

Personal Protective Equipment

Respiratory Protection : For most conditions, no respiratory protection should be needed; however, in vapor atmosphere, use an adequate respirator.

Eye Protection : Wear safety glasses with side shield or goggles and face shield.

Hand Protection : Wear appropriate oil-resistant gloves or anti-oil-penetration gloves.

Skin and Body Protection : Wear anti-static working wear and safety shoes.

9. Physical & Chemical Properties

Appearance (physical state ,color etc.) : Red, liquid. ¹⁾

Odour : No Odour ¹⁾

pH (at25°C) : 8.9 (50% solution) ¹⁾

Melting Point/Freezing Point : $\leq -50^{\circ}\text{C}$ (frozen-in temperature) ¹⁾

Boiling Point : 110°C ¹⁾

Flash Point (byCOC) : N/A ¹⁾(Propylene glycol of "main" ingredient: 109°C)

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<i>Evaporation Rate</i>	:	<i>Not applicable.</i>
<i>Flammability(Solid, Gas)</i>	:	<i>Not applicable.</i>
<i>Upper/Lower Flammability Or Explosive Limits</i>	:	<i>Upper 12.5% Lower 2.6%</i> <i>(Propylene glycol of "main" ingredient)</i>
<i>Vapour Pressure</i>	:	<i>1650 Pa(20°C)</i>
<i>Vapour Density</i>	:	<i>Not applicable.</i>
<i>Relative Density (at20°C)</i>	:	<i>1.061 g/cm³ ¹⁾</i>
<i>Solubility</i>	:	<i>Very good in water. Insoluble in petroleum solvent.</i>
<i>Partition Coefficient n-Octanol/Water</i>	:	<i>-1.32 ~ 0.92 (Propylene glycol of "main" ingredient)</i>
<i>Auto-Ignition Temperature</i>	:	<i>421°C (Propylene glycol of "main" ingredient)</i>
<i>Decomposition Temperature</i>	:	<i>Not applicable.</i>
<i>Viscosity (at20°C)</i>	:	<i>12.7 mPa·s ¹⁾</i>

10. Stability & Reactivity

Stable at a normal temperature. Spontaneous Combustibility, Reactivity with Water, Oxidizability, Self-Reactivity and Explosiveness are not applicable to this substance.

11. Toxicological Information (including epidemiological information)

We cannot describe test data of AURORA BRINE P but as the reference describe the data of Propylene glycol of main ingredient.

The following is a data on Propylene glycol to the main ingredient of this substance :

Corrosive effect to skin : None

Irritant Properties : None

		<i>Propylene glycol</i>
<i>Acute Toxicity</i>	:	<i>Oral Rat LD50 20,000 mg/kg. ²⁾</i>
		<i>Oral Mousa LD50 24,000 mg/kg. ²⁾</i>
		<i>Skin Rabbit LD50 20,800 mg/kg. ²⁾</i>

Mutagenic Effects : No evidence of mutagenic activity.

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12. Ecological Information

In case of on Propylene glycol to the main ingredient of this substance :

Biodegradability – Good

Fish Toxicity – TLm96 1,000 mg / l over ³⁾

13. Disposal Considerations

Burn in a chemical incinerator little by little. In case of disposal, consign to an industrial disposal treatment company that is licensed by the local governor.

The substance-containing waste water should be discharged after treated with activated sludge.

14. Transport Information

No classification assigned.

LAND TRANSPORT ADR/RID : No classification assigned.

AIR TRANSPORT IATA/CAO : No classification assigned.

MARITIME TRANSPORT IMDG : No classification assigned.

Confirm no leak from containers. Take enough means not to damage the containers by overturn or falling. Any transportation practice should be done in compliance with laws and regulations.

15. Regulatory Information

JAPAN REGULATIONS :

- Law concerning Examination and Regulation of Manufacture, etc. of Chemical Substances - Specified Chemical Substances, Designated Chemical Substances : Not Listed*
- Industrial Safety and Health Law - Ordinance on the Prevention of the Organic Solvent Poisoning : : Not Applicable*
- Pollutant Release and Transfer Register (P.R.T.R.) : Not Applicable*
- Poisonous and Deleterious Substances Control Law : Not Applicable*
- Regulation on Ship Transportation and Storage of Hazardous Materials - Hazardous Materials : Not Applicable*

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- *Fire Service Law – Dangerous Goods* : *Not Applicable*
- *Foreign Trade Control Law – Regulated Substance* : *Not Applicable*
- *Water Pollution Control Law – Regulation of BOD and COD* : *Check if needed.*
- *Waste Disposal and Public Cleansing Law (Prohibition of Diffusion and Outflow)* : *Applicable*

U.S.REGULATIONS:

TSCA INVENTORY STATUS : Y

EUROPEAN REGULATIONS :

EC NUMBER(EINECS) : 200-338-0

The data of Propylene glycol show the following.

16. Other Information

Inquiry : Get more information from the responsible care department on page 1, if necessary.

Reference Materials :

- 1) *Measurement values obtained by Tokyo Fine Chemical Co., Ltd.*
- 2) *NIOSH : Registry of Toxic Effects of Chemical Substances (1985-1986)*
- 3) *Dangerous object handbook(1991)*

The information contained herein might be revised with additional new knowledge and/or test data. To the best of our knowledge, the information contained herein is accurate. However, TOKYO FINE CHEMICAL Co., Ltd. does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of user.