



TOSOH

TOSOH CORPORATION

3-8-2, Shiba, Minato-ku, Tokyo 105-8623, Japan

Phone: +81-3-5427-6340 Fax: +81-3-5427-5378

SAFETY DATA SHEET

Date of printing: January 5, 2015

Version: No. T1

Date of revision: January 5, 2015

Date of issue: January 11, 2013

Product name: CORONATE BI-301

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

| | |
|---------------------------------|--|
| Product name | CORONATE BI-301 |
| General description | Blocked isocyanate solution |
| Company Identification | |
| Company name | TOSOH CORPORATION |
| Department | Functional Urethanes Department / Urethane Division |
| Address | 3-8-2, Shiba, Minato-ku, Tokyo 105-8623, Japan |
| Telephone (Emergency telephone) | +81-3-5427-5393 |
| | (Monday ~ Friday, Japan standard time 9:00 a.m. ~ 6:00 p.m.) |

2. HAZARDS IDENTIFICATION

GHS classification of the substance or mixture

Physical Hazards

| | |
|---------------------|-------------------|
| • Flammable liquids | Category 3 |
| • Flammable solids | Not applicable |

Health Hazards

| | |
|---|--|
| • Acute toxicity(oral) | Not classified |
| • Acute toxicity(skin) | Not classified |
| • Acute toxicity(inhalation: gas) | Not applicable |
| • Acute toxicity(inhalation: vapour) | Classification not possible |
| • Acute toxicity(inhalation: dust, mist) | Not classified |
| • Skin corrosion/irritation | Category 2 |
| • Serious eye damages/eye irritation | Category 2 |
| • Respiratory sensitization | Classification not possible |
| • Skin sensitization | Classification not possible |
| • Germ cell mutagenicity | Classification not possible |
| • Carcinogenicity | Classification not possible |
| • Reproductive toxicity | Classification not possible |
| • Specific target organ toxicity; single exposure | Category 2 (Central nervous system) |
| • Specific target organ toxicity; repeated exposure | Category 2 (Central nervous system) |
| • Aspiration hazard | Not classified |

Environmental Hazards

| | |
|----------------------------|-------------------|
| • Aquatic toxicity (acute) | Category 2 |
|----------------------------|-------------------|



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• **Aquatic toxicity (chronic)**

Category 3

Section is not listed, it can not be excluded from 'Not applicable' or 'Classification not possible'

GHS label elements including precautionary statements

Symbol

:



Signal word

:

Warning

Hazard statement

:

- **Flammable liquid and vapour**
- **Causes skin irritation**
- **Causes serious eye irritation**
- **May cause damage to Central nervous system**
- **May cause damage to Central nervous system through prolonged or repeated exposure**
- **Toxic to aquatic life**
- **Harmful to aquatic life with long lasting effects**

Precautionary Statements

Prevention

- Obtain special instructions before use.
- Do not handle until all precautions have been read and understood.
- Keep container tightly closed
(There is a danger of explosion if the carbon dioxide generated when water enters.)
- Do not handle in people who cause allergic reactions.
- Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- Ground/bond container and receiving equipment.
- Use only non-sparking tools.
- Use explosion-proof electrical/ventilating/lighting/equipment.
- Take precautionary measures against static discharge.



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- Do not eat, drink or smoke when using this product.
- Do not breathe dust/fume/gas/mist/vapour/spray.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Wash hands thoroughly after handling.
- Avoid release to the environment.

Response

- In case of fire: Use dry chemical powder, carbon dioxide, foam, large volume of water spray.
- If swallowed: Rinse mouth with water. Do not induce vomiting. To contact a doctor immediately.
- If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. To contact a doctor immediately.
- If on eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. To contact a doctor immediately.
- If on skin (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. To contact a doctor immediately.
- If on skin: Wash with plenty of soap and water.
- Seek medical advice/attention if you feel unwell.
- If exposed or concerned, or if you feel unwell: Get medical advice/attention.
- Wash hands thoroughly after handling.
- Wash contaminated clothing before re-using.
- When leaking out, collect as much as possible to the container and so on. After that, spray and neutralize with an ammonia water, alcohol and so on, and then absorb it with sands.

Storage

- Store container in cool place/ well-ventilated place.

Disposal

- Dispose of contents/container to waste in accordance with local / regional / national / international regulations (to be specified).

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture

Mixture



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Chemical name

Blocked isocyanate solution

【Components and Contents】

| Chemical name | Contents | CAS No. |
|--|----------|--------------|
| Solvent naphtha, petroleum, light arom | 25 % | 64742-95-6 |
| Blocked isocyanate | 75 % | Trade secret |

【HAZARDOUS INGREDIENT(s)】

| Chemical name | Contents | CAS No. |
|------------------------|----------|----------|
| 1,2,4-Trimethylbenzene | 10 % | 95-63-6 |
| 1,3,5-Trimethylbenzene | 2.8 % | 108-67-8 |

4. FIRST AID MEASURES

If inhaled

Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Get medical advice/attention immediately.

If on skin

Remove / Take off immediately contaminated clothing and shoes etc. Rinse the part that touches the product, by washing with water or lukewarm water flow. Wash with soap and water. Seek medical advice or attention, if there are change in the appearance or pain persists.

If on eyes

Even if very small contact, rinse with clean water for at least 15 minutes, and seek ophthalmologist's advice/attention. During the eyewash, open the eyelid well with your fingers, then wash well the eyeball and the eyelid with water.

If swallowed

Rinse mouth well. Spit it in person voluntarily if possible, to vomit.
Seek medical advice/attention immediately.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media :

Dry chemical powder, carbon dioxide, foam, large volume of water spray.

Unsuitable extinguishing media : Water jet

Specific hazards during fire : There is a risk of generating a hazard gas in a fire.

Specific extinction method :

Wear self-contained breathing apparatus and protective groves, because cracked gas and steam are generated in the case of fire. Water is drained off to the drum equipment etc. that have not ignited, and it tries to prevent fire spreading, overheating and explosion of containers. After the



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fire is extinguished, it is necessary to remove the spilled material. Do not let outsiders enter the place fire.

Special protective for fire-fighters :

In the extinction work, wear self-contained breathing apparatus and protective groves, because cracked gas and steam are generated.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Immediately remove all sources of ignition and flammable material. In case of fire, use powder or foam as extinguishing media. Wear safety glasses, rubber gloves, a gas mask for organic gas. Restrict entry of unauthorized personnel. To work from the windward. Evacuate people downwind. Better ventilation of the place spilled. Temporary leak repair parts, stop the leak.

Environmental precautions:

Do not flow spillage directly into rivers or sewage. Adhered and collected waste material should be promptly disposed of, in accordance with appropriate laws and regulations.

Methods and materials for containment and cleaning up:

(Small spill)

Removed by adsorption sand, sawdust, etc. Store in a container with a lid , in case of wiping with rags and waste paper.

(Large spill)

In order to prevent the spread of spilled liquid, enclosed sand, dirt, and sawdust. Collect spillage in the container as much as possible. Something that could not be recovered, remove adsorbed sand, earth, sawdust, etc. Wash the spillage area clean with water.

Measures to prevent secondary disasters

Promptly except near sources of ignition and prepare a fire extinguishing agent.

Using a safety tool that does not generate a spark.

7. HANDLING AND STORAGE

Handling

The operator should be trained in handling this product.

Technical measure

Wear appropriate protective goggles, rubber gloves, a gas mask for organic gas.

Handling is performed in a well ventilated place.

Notes

Becomes hot, the blocking agent is removed, and the isocyanate is playing.

Those who show allergenic and sensitizing effects should not be in charge.

Safety treatment notes

When the drum is pressurized, unscrew the bung slowly to release the pressure before taking



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it off. Pay attention to avoid contact with water or substance which react with this product.

Working space is a non smoking. Take precautionary measures against static discharge.

Forbid to use the open flame heating element, high-temperature heating elements.

Storage

Appropriate safekeeping condition

Store the container in a dry area. Once a container is opened, the container should be sealed with dry nitrogen or dry air and be closed tightly. If stored outdoors, the drums should be covered with waterproof canvas sheet to avoid being exposed in the rain.

The use of fire is strictly prohibited in the storage area.

Packaging materials

Excellent corrosion resistance in a suitable material, use containers with airtight packaging.

Containers which are prescribe in Fire and Disaster Management Act and UN transport regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Facility and equipment measures

Facilities in where this material is handled should be structured with the perfectly closed system. Make available emergency safety shower and eye wash in the work area.

Occupational exposure limits

1,3,5-Trimethylbenzene : 25 ppm ACGIH(TLV-TWA) 2007
: 25 ppm JSOH (Time weighted average) 2007

* JSOH: Japan Society of Occupational Health

Personal protective equipment

| | |
|--------------------------|---|
| Respiratory protection | Respirator for organic gases |
| Hand protection | Safety gloves made from rubbers or plastics (impermeable) |
| Eye protection | Safety glasses with side version or protection goggles |
| Skin and body protection | Long sleeve protective work clothes |

Hygiene measures

Contaminated protective clothing, protective equipment should be replaced as soon as possible.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|------------|---------------|
| Appearance | Liquid |
| Color | Pale yellow |
| Odor | Aromatic odor |
| PH | — |



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| | |
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| Boiling point | — |
| Freezing point | — |
| Flash point | 50 °C determined by closed cup flash test. (Sealed Seta) |
| Explosion limit | — |
| Vapour pressure | — |
| Vapour density | — |
| Specific gravity | 1.063×10^3 (kg/m ³) at 25°C |
| Solubility (water) | Insoluble |
| Solubility (other) | Soluble in toluene, ethyl acetate or acetone |
| Octanol/water partition coefficient | NA |
| Viscosity | 3,100 mPa·s at 25°C |

10. STABILITY AND REACTIVITY

| | | |
|-------------------|---|------|
| Stability | Flammability | some |
| | Ignition quality | na |
| | Oxidizing | na |
| | Self-reactive, Explosiveness | na |
| | Explosive dust | na |
| | Other | na |
| Reactivity | In a usual handling condition, chemically stable. Becomes hot, the blocking agent is removed, and the isocyanate is playing. | |

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

For 1,2,4-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")

Oral (rat) : LD50 = 5,000mg/kg (RTECS, 2008) : Not classified

Inhalation (dust, mist) (rat) : LC50 = 18mg/L/4hr (RTECS, 2008) : Not classified

For 1,3,5-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")

Inhalation (dust, mist) (rat) : LC 50 = 24mg/L/4hr (4,900ppm /4hr) : Not classified

(calculated value based on CERI Hazard deta 2001-51(2002))

Skin corrosion /irritation

For 1,2,4-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")
skin irritation(ICSC(2002))

For 1,3,5-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")
(rabbit) middle skin irritation(CERI Hazard deta 2001-51(2002)) : Category 2

Serious eye damage/ eye irritation

For 1,2,4-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")
Substance is eye irritation.



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For 1,3,5-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")
(rabbit) Substance is mild eye irritation. (CERI Hazard data 2001-51(2002)) : Category 2B

Respiratory/skin sensitization

For 1,2,4-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")
respiratory sensitization

There are no respiratory sensitization data. : Classification not possible

skin sensitization

Skin sensitization does not demonstrated. (IUCLID(2000)) : Classification not possible

For 1,3,5-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")
respiratory sensitization

(man) There is a description of health effects. (CERI Hazard data 2001-51(2002))

But respiratory sensitization data is missing. : Classification not possible

Germ cell mutagenicity

For 1,2,4-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")
Somatic cell mutagenicity tests is negative (IN VIVO).(PATTY(5TH,2001)) : Not classified

For 1,3,5-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")
(CERI Hazard data 2001-51(2002))

Somatic cell mutagenicity tests (micronucleus test) is negative (in vivo). : Not classified

Carcinogenicity

For 1,2,4-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")
There was no information. : Classification not possible

Reproductive toxicity

For 1,2,4-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")
There was no data on the occurrence of the next generation of parent animals.

(FOOD CHEM. TOXICOL. 43(2005)) : Classification not possible

Specific target organ toxicity-single exposure

For 1,2,4-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")
(man) Irritation of the respiratory. (ACGIH 7TH, (2001)

(mouse) Loss of righting reflex (Inhalation exposure) (PATTY (5TH,2001))

: Category 2 (Respiratory tract irritation, Narcotic effects)

For 1,3,5-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")
(CERI Hazard data 2001-51(2002))

(Experimental animal) 5,075-7,105 ppm=There sedation /

7,105-9,135 ppm=Loss of reflexes, Causes damage to Central nervous system

: Category 3 (Narcotic effects)

Specific target organ toxicity-repeated exposure

For 1,2,4-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")
(rat) Effects of (3 months) male rats only / Impact within the scope of the guidance value of

category 2 (Central nervous system, Lung, Blood system)



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(Ministry of Health, Labour and Welfare report ACCESS ON SEPTEMBER 2008)

Effects on the blood system, because there was no evidence of any other, we do not adopt.

: Category 2 (Central nervous system, Lung)

For 1,3,5-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")

There was not enough information. : Classification not possible

Aspiration hazard

For 1,2,4-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")

Kinematic viscosity was estimated to be less than 1.14mm²/s (40°C)

1.14mm²/s < 20.5mm²/s (Guidance value) : Category 1

For 1,3,5-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")

Kinematic viscosity (Hydrocarbon) 1.336mm²/s (20°C) : Category 1

12.ECOLOGICAL INFORMATION

Aquatic Toxicity

For 1,2,4-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")

(Acute) Crustacean (Daphnia magna) EC50 = 6.14mg/L/48hr (IUCLID, 2000) : Category 2

(Chronic) There is no Rapid degradation. : Category 2 (same Category as Acute)

(Degree of decomposition by OECD TG301C (28days) = 4~18% (Existing inspection 1977))

For 1,3,5-Trimethylbenzene (main component is hazardous ingredient of " Trimethylbenzene ")

(Acute) Crustacean (Daphnia magna) LC50 = 6,000 μg/L/48hr : Category 2

(Ministry of the Environment : Risk Assessment Volume 2, 2002)

(Chronic) There is no Rapid degradation. : Category 2 (same Category as Acute)

(Degree of decomposition by BOD = 0%

(Safety inspection data of existing chemical substances))

13.DISPOSAL CONSIDERATIONS

Disposal methods

This product should be incinerated in an appropriate facility. This product should be treated by authorized agents professionally trained in disposing industrial waste.

Handling empty container after use

Neutralizing agent to put the container, and processes to be washed after neutralizing. Used container should be punctured and scrapped, so that it is not used for any other purpose.

14.TRANSPORT INFORMATION

International Regulations

Land : Transport in accordance with your country and regions regulations.



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(RID, ADR, DOT etc.)

Sea : Transport in accordance with IMDG Code.

Air : Transport in accordance with ICAO-TI/ IATA-DGR.

UN number: 1866

Proper shipping name: Resin solution, flammable (Blocked isocyanate solution)

Hazard class: 3 Flammable liquid

Packing group: III

Marine Pollutant: Not applicable

IMDG class: 3 Flammable liquid

Follow all the regulations in your country. Be sure that the container is tightly sealed, that no leakage is found and that all the necessary indications are specified. Filling, loading and extracting operations should be performed under the supervision of an authorized operator. Nitrogen gas or dry air should be charged into the container for transportation after filling or extracting.

Ship hazardous materials transportation and storage regulations based on the Ship Safety Act: It corresponds to "poison" hazardous materials, if you want to maritime transport, and transport you necessity to take measures in accordance with the law Ship Safety.

15.REGULATORY INFORMATION

Regulatory information with regard to this substance in your country should be examined by your own responsibility.

16.OTHER INFORMATION

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority, products are supposed to be used promptly after purchase in consideration of safety.

Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage.

The products must be handled only by those who are familiar with specialized knowledge and



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have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe conditions of use shall be set up on each user's own responsibility.