

SAFETY DATA SHEET

1. Product and Company Identification

[Product name] UBA-188-M Black

[File No.] 300152E

[Date of issue] 2015/06/12

[Details of Manufacture]

Manufacture's name: MITSUBISHI PENCIL CO., LTD.

Address: 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN

Telephone number: 03-3458-6281 telefax number: 03-3450-0363
(Only office hour are available.)

2. Hazards identification

Information of this section is about the ink.

[Classification of the substance or mixture]

PHYSICO-CHEMICAL HAZARDS

Not applicable.

HEALTH HAZARDS

| | |
|------------------------------------------------------------|-------------------------------|
| Acute toxicity(oral) | : Not classified |
| Acute toxicity(skin) | : Not classified |
| Acute toxicity(inhalation steam) | : Not classified |
| Skin corrosion/irritation | : Category3 |
| Serious eye damage/Eye Irritation | : Category2 |
| Respiratory sensitizer | : Classification not possible |
| Skin sensitizer | : Category1 |
| Germ cell mutagenicity | : Classification not possible |
| Carcinogenicity | : Category2 |
| Toxic to reproduction | : Classification not possible |
| Specific target organ systemic toxicity(single exposure) | : Category1 |
| Specific target organ systemic toxicity(repeated exposure) | : Category1 |
| Aspiration hazard | : Classification not possible |

ENVIRONMENTAL HAZARDS

| | |
|---------------------------------------------|-------------------------------|
| Hazard to the Aquatic Environment (Acute) | : Not classified |
| Hazard to the Aquatic Environment (Chronic) | : Classification not possible |

[Label elements]

Pictogram



Signal Word

: Danger

Hazard Statement

: Causes mild skin irritation
: Causes serious eye damage
: May cause an allergic skin reaction
: Suspected of causing cancer
: Causes damage to organs
: Causes damage to organs through prolonged or repeated exposure

Precautionary Statement

: Do not breathe dust/vapours etc..

- : Do not eat, drink or smoke when using this product.
 - : Use personal protective equipment as required. (Refer to Section 8)
 - : Get medical advice/attention if you feel unwell.
 - : Wash contaminated clothing before reuse.
 - : IF ON SKIN: Wash with plenty of soap and water.
 - : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - : IF exposed or concerned: Get medical advice/attention.
 - : If skin irritation occurs: Get medical advice/attention.
 - : If skin irritation or rash occurs: Get medical advice/attention.
 - : If eye irritation persists: Get medical advice/attention.
 - : Dispose in accordance with all current regulations and standards.
- [Other hazards] No information available.

3. Composition/information on ingredients

| [The chemical product is a substance or a mixture] | Mixture | |
|----------------------------------------------------|-------------------|---------------------------------------------|
| [Chemical nature] | [Component parts] | Ink [Ink quantity of product :about 1.05g] |
| Chemical name | Cas No. | Concentration range(wt%) |
| Water | 7732-18-5 | 50-80 |
| 1,2-Ethanediol | 107-21-1 | 10-30 |
| Carbon black | 1333-86-4 | <10 |
| Triethanolamine | 102-71-6 | <10 |
| Additive | Trade secret | <10 |
| Resin | Trade secret | <10 |

4. First aid measures

[Description of first aid measures]

- Eye contact : Flush eyes with plenty of water for at least 15 minutes.
: Take off the contact lens if possible
: Consult medical advice depending on the symptoms.
- Skin contact : Wash skin.
: Consult medical advice depending on the symptoms.
: Thoroughly clean and dry contaminated clothing and shoes before reuse.
- Ingestion : Rinse mouth, give plenty of water to dilute. No specific intervention is indicated as compound is not likely to be hazardous by ingestion.
: Consult medical advice depending on the symptoms.
- Inhalation : Due to its low vapor pressure inhalation is unlikely at room temperature.
: If not feeling well, move to an area of fresh air and rest.
: Consult medical advice depending on the symptoms.

[Most important symptoms and effects, both acute and delayed]

No information available.

[Indication of any immediate medical attention and special treatment needed]

No information available.

5. Firefighting measures

| | |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| [Extinguishing media] | Regular dry chemical, carbon dioxide, water, regular foam |
| [Special hazards arising from the substance or mixture] | No further relevant information available. |
| [Advice for firefighters] | Stay upwind and keep out of low areas and avoid inhalation of material or combustion by-products. Wear suitable protective equipment. |

6. Accidental release measures

| | |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [Personal precautions, protective equipment and emergency procedures] | Rope off the area to contain the leak and prohibit entrance except for authorized persons. Wear appropriate protection gear. Do not work in the leeward. |
| [Environmental precautions] | Collect leaked material in empty container after leading outflow to a safe area containing earth and sand. Do not allow leaked material to pollute rivers, lakes, etc. |
| [Methods and material for containment and cleaning up] | Wipe off by dry cloth and wash with water. Dispose of pollution or waste in accordance with national, state and local regulations. |
| [Reference to other sections] | No information available. |

7. Handling and storage

| | |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [Precautions for safe handling] | Do not lick or swallow the ink. Avoid contact with skin and eyes. Recap after use (if there is a cap), and keep out of the reach of infants. Don't shake. |
| [Conditions for safe storage, including any incompatibilities] | Keep away from oxidizing materials, ignition sources, high temperature and direct sunlight. Recommended temperature : 0-40°C |
| [Specific end use(s)] | No information available. |

8. Exposure controls/personal protection

| | | |
|----------------------|------|----------------------------|
| [Control parameters] | | |
| Chemical name | OSHA | ACGIH |
| Carbon black | - | (TWA)3.5mg/m ³ |
| 1,2-Ethandiol | - | (STEL)100mg/m ³ |
| Triethanolamine | - | (TWA)5mg/m ³ |

| | |
|------------------------|-----------------|
| [Exposure controls] | |
| Protective equipment | : Not required. |
| Respiratory protection | : Not required. |
| Hands protection | : Not required. |
| Eye protection | : Not required. |
| Skin protection | : Not required. |

9. Physical and chemical properties

[Information on basic physical and chemical properties]

| | |
|--------------------------|-----------------------------------------------------|
| Color | : Black |
| State | : Liquid |
| Odor | : No information available. |
| pH | : about 8.0 |
| Boiling point | : No information available.[Water 100.0°C] |
| Melting point | : No information available. |
| Flash point | : No information available.[1,2-Ethanediol 111.0°C] |
| Autoignition temperature | : No information available.[1,2-Ethanediol 398.0°C] |
| Explosion limits | : No information available. |
| Vapor density(air=1) | : No information available. |
| Density | : about 1.1 |
| Solubility in water | : No information available. |
| Evaporation rate | : No information available. |
| Volatile | : >80% |
| [Other information] | No information available. |

10. Stability and reactivity

| | |
|--------------------------------------|----------------------------------------------------------------------------------------------------------|
| [Chemical stability] | This mixture is stable in normal temperature, a condition of the pressure. |
| [Reactivity] | No data available. |
| [Conditions to avoid] | Avoid heat, flames, sparks and other sources of ignition. Avoid direct sunlight and high temperature. |
| [Incompatible materials] | No information available. |
| [Hazardous decomposition products] | No information available. |
| [Possibility of hazardous reactions] | No information available. |

11. Toxicological information

[Information on toxicological effects]

| | |
|------------------------------------|--------------------------------|
| Acute toxicity(oral) | |
| Not classified | : >2000 mg/kg (estimate value) |
| Acute toxicity(skin) | |
| Not classified | : >2000 mg/kg (estimate value) |
| Acute toxicity(inhalation:vapours) | |
| Not classified | : >20 mg/L (estimate value) |
| Skin corrosion/irritation | |
| 1,2-Ethanediol | : Category3 |
| Triethanolamine | : Category2 |
| Serious eye damage/Eye Irritation | |
| 1,2-Ethanediol | : Category2B |
| Triethanolamine | : Category2A |
| Respiratory sensitizer | |
| No information available. | |

Skin sensitizer

Triethanolamine : Category1

Germ cell mutagenicity

No information available.

Carcinogenicity

Carbon black : Category2

Toxic to reproduction

No information available.

Specific target organ systemic toxicity(single exposure)

1,2-Ethanediol : Category1

Specific target organ systemic toxicity(repeated exposure)

Carbon black : Category1

1,2-Ethanediol : Category1

Aspiration hazard

No information available.

Hazard to the Aquatic Environment (Acute)

No information available.

Hazard to the Aquatic Environment (Chronic)

No information available.

12. Ecological information

No information available.

13. Disposal considerations

[Waste treatment methods]

Dispose in accordance with all current regulations and standards.

Do not allow it to flow into the drainages with waste fluid.

14. Transport information

[Environmental hazards] No information available.

[HS Code] 960810

[Special precautions for user] Check the container for any leakage. Load a cargo without a dropping or incurring damage, and take caution against collapse of container.

15. Regulatory information

TSCA : Listed on the TSCA inventory or polymer substance.

[Chemical safety assessment]

Ink or lead are manufactured in accordance with ISO 8124-3 "Safety of Toys - Part 3"

16. Other information

- The information is based on our present knowledge at the date of its publication, and designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release.
- This shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

SAFETY DATA SHEET

1. Product and Company Identification

[Product name] UBA-188-M Blue

[File No.] 300154E

[Date of issue] 2015/06/12

[Details of Manufacture]

Manufacture's name: MITSUBISHI PENCIL CO., LTD.

Address: 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN

Telephone number: 03-3458-6281 telefax number: 03-3450-0363
(Only office hour are available.)

2. Hazards identification

Information of this section is about the ink.

[Classification of the substance or mixture]

PHYSICO-CHEMICAL HAZARDS

Not applicable.

HEALTH HAZARDS

| | |
|------------------------------------------------------------|-------------------------------|
| Acute toxicity(oral) | : Not classified |
| Acute toxicity(skin) | : Not classified |
| Acute toxicity(inhalation steam) | : Not classified |
| Skin corrosion/irritation | : Category3 |
| Serious eye damage/Eye Irritation | : Category2 |
| Respiratory sensitizer | : Classification not possible |
| Skin sensitizer | : Category1 |
| Germ cell mutagenicity | : Classification not possible |
| Carcinogenicity | : Classification not possible |
| Toxic to reproduction | : Classification not possible |
| Specific target organ systemic toxicity(single exposure) | : Category1 |
| Specific target organ systemic toxicity(repeated exposure) | : Category1 |
| Aspiration hazard | : Classification not possible |

ENVIRONMENTAL HAZARDS

| | |
|---------------------------------------------|-------------------------------|
| Hazard to the Aquatic Environment (Acute) | : Not classified |
| Hazard to the Aquatic Environment (Chronic) | : Classification not possible |

[Label elements]

Pictogram



Signal Word

: Danger

Hazard Statement

: Causes mild skin irritation
: Causes serious eye damage
: May cause an allergic skin reaction
: Causes damage to organs
: Causes damage to organs through prolonged or repeated exposure

Precautionary Statement

: Do not breathe dust/vapours etc..
: Do not eat, drink or smoke when using this product.

- : Get medical advice/attention if you feel unwell.
 - : Wash contaminated clothing before reuse.
 - : IF ON SKIN: Wash with plenty of soap and water.
 - : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - : IF exposed or concerned: Get medical advice/attention.
 - : If skin irritation occurs: Get medical advice/attention.
 - : If skin irritation or rash occurs: Get medical advice/attention.
 - : If eye irritation persists: Get medical advice/attention.
 - : Dispose in accordance with all current regulations and standards.
- [Other hazards] No information available.

3. Composition/information on ingredients

| [The chemical product is a substance or a mixture] | Mixture | |
|----------------------------------------------------|-------------------|---------------------------------------------|
| [Chemical nature] | [Component parts] | Ink [Ink quantity of product :about 1.05g] |
| Chemical name | Cas No. | Concentration range(wt%) |
| Water | 7732-18-5 | 50-80 |
| 1,2-Ethanediol | 107-21-1 | 10-30 |
| Additive | Trade secret | 10-30 |
| Triethanolamine | 102-71-6 | <10 |
| Coloring agent | Trade secret | <10 |
| Resin | Trade secret | <10 |

4. First aid measures

[Description of first aid measures]

- Eye contact**
- : Flush eyes with plenty of water for at least 15 minutes.
 - : Take off the contact lens if possible
 - : Consult medical advice depending on the symptoms.
- Skin contact**
- : Wash skin.
 - : Consult medical advice depending on the symptoms.
 - : Thoroughly clean and dry contaminated clothing and shoes before reuse.
- Ingestion**
- : Rinse mouth, give plenty of water to dilute. No specific intervention is indicated as compound is not likely to be hazardous by ingestion.
 - : Consult medical advice depending on the symptoms.
- Inhalation**
- : Due to its low vapor pressure inhalation is unlikely at room temperature.
 - : If not feeling well, move to an area of fresh air and rest.
 - : Consult medical advice depending on the symptoms.

[Most important symptoms and effects, both acute and delayed]

No information available.

[Indication of any immediate medical attention and special treatment needed]

No information available.

5. Firefighting measures

| | |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| [Extinguishing media] | Regular dry chemical, carbon dioxide, water, regular foam |
| [Special hazards arising from the substance or mixture] | No further relevant information available. |
| [Advice for firefighters] | Stay upwind and keep out of low areas and avoid inhalation of material or combustion by-products. Wear suitable protective equipment. |

6. Accidental release measures

| | |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [Personal precautions, protective equipment and emergency procedures] | Rope off the area to contain the leak and prohibit entrance except for authorized persons. Wear appropriate protection gear. Do not work in the leeward. |
| [Environmental precautions] | Collect leaked material in empty container after leading outflow to a safe area containing earth and sand. Do not allow leaked material to pollute rivers, lakes, etc. |
| [Methods and material for containment and cleaning up] | Wipe off by dry cloth and wash with water. Dispose of pollution or waste in accordance with national, state and local regulations. |
| [Reference to other sections] | No information available. |

7. Handling and storage

| | |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [Precautions for safe handling] | Do not lick or swallow the ink. Avoid contact with skin and eyes. Recap after use (if there is a cap), and keep out of the reach of infants. Don't shake. |
| [Conditions for safe storage, including any incompatibilities] | Keep away from oxidizing materials, ignition sources, high temperature and direct sunlight. Recommended temperature : 0-40°C |
| [Specific end use(s)] | No information available. |

8. Exposure controls/personal protection

| | | |
|------------------------|------|----------------------------|
| [Control parameters] | | |
| Chemical name | OSHA | ACGIH |
| 1,2-Ethanediol | - | (STEL)100mg/m ³ |
| Triethanolamine | - | (TWA)5mg/m ³ |
| [Exposure controls] | | |
| Protective equipment | | : Not required. |
| Respiratory protection | | : Not required. |
| Hands protection | | : Not required. |
| Eye protection | | : Not required. |
| Skin protection | | : Not required. |

9. Physical and chemical properties

[Information on basic physical and chemical properties]

| | |
|--------------------------|-----------------------------------------------------|
| Color | : Blue |
| State | : Liquid |
| Odor | : No information available. |
| pH | : about 8.0 |
| Boiling point | : No information available.[Water 100.0°C] |
| Melting point | : No information available. |
| Flash point | : No information available.[1,2-Ethanediol 111.0°C] |
| Autoignition temperature | : No information available.[1,2-Ethanediol 398.0°C] |
| Explosion limits | : No information available. |
| Vapor density(air=1) | : No information available. |
| Density | : about 1.1 |
| Solubility in water | : No information available. |
| Evaporation rate | : No information available. |
| Volatile | : >80% |
| [Other information] | No information available. |

10. Stability and reactivity

| | |
|--------------------------------------|----------------------------------------------------------------------------------------------------------|
| [Chemical stability] | This mixture is stable in normal temperature, a condition of the pressure. |
| [Reactivity] | No data available. |
| [Conditions to avoid] | Avoid heat, flames, sparks and other sources of ignition. Avoid direct sunlight and high temperature. |
| [Incompatible materials] | No information available. |
| [Hazardous decomposition products] | No information available. |
| [Possibility of hazardous reactions] | No information available. |

11. Toxicological information

[Information on toxicological effects]

| | |
|------------------------------------|--------------------------------|
| Acute toxicity(oral) | |
| Not classified | : >2000 mg/kg (estimate value) |
| Acute toxicity(skin) | |
| Not classified | : >2000 mg/kg (estimate value) |
| Acute toxicity(inhalation:vapours) | |
| Not classified | : >20 mg/L (estimate value) |
| Skin corrosion/irritation | |
| 1,2-Ethanediol | : Category3 |
| Triethanolamine | : Category2 |
| Serious eye damage/Eye Irritation | |
| 1,2-Ethanediol | : Category2B |
| Triethanolamine | : Category2A |
| Respiratory sensitizer | |
| No information available. | |

Skin sensitizer

Triethanolamine : Category1

Germ cell mutagenicity

No information available.

Carcinogenicity

No information available.

Toxic to reproduction

No information available.

Specific target organ systemic toxicity(single exposure)

1,2-Ethanediol : Category1

Specific target organ systemic toxicity(repeated exposure)

1,2-Ethanediol : Category1

Aspiration hazard

No information available.

Hazard to the Aquatic Environment (Acute)

No information available.

Hazard to the Aquatic Environment (Chronic)

No information available.

12. Ecological information

No information available.

13. Disposal considerations

[Waste treatment methods]

Dispose in accordance with all current regulations and standards.

Do not allow it to flow into the drainages with waste fluid.

14. Transport information

[Environmental hazards] No information available.

[HS Code] 960810

[Special precautions for user] Check the container for any leakage. Load a cargo without a dropping or incurring damage, and take caution against collapse of container.

15. Regulatory information

TSCA : Listed on the TSCA inventory or polymer substance.

[Chemical safety assessment]

Ink or lead are manufactured in accordance with ISO 8124-3 "Safety of Toys - Part 3"

16. Other information

- The information is based on our present knowledge at the date of its publication, and designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release.
- This shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

SAFETY DATA SHEET

1. Product and Company Identification

[Product name] UBA-188-M Red

[File No.] 300153E

[Date of issue] 2015/06/12

[Details of Manufacture]

Manufacture's name: MITSUBISHI PENCIL CO., LTD.

Address: 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN

Telephone number: 03-3458-6281 telefax number: 03-3450-0363
(Only office hour are available.)

2. Hazards identification

Information of this section is about the ink.

[Classification of the substance or mixture]

PHYSICO-CHEMICAL HAZARDS

Not applicable.

HEALTH HAZARDS

| | |
|------------------------------------------------------------|-------------------------------|
| Acute toxicity(oral) | : Not classified |
| Acute toxicity(skin) | : Not classified |
| Acute toxicity(inhalation steam) | : Not classified |
| Skin corrosion/irritation | : Category3 |
| Serious eye damage/Eye Irritation | : Category2 |
| Respiratory sensitizer | : Classification not possible |
| Skin sensitizer | : Category1 |
| Germ cell mutagenicity | : Classification not possible |
| Carcinogenicity | : Classification not possible |
| Toxic to reproduction | : Classification not possible |
| Specific target organ systemic toxicity(single exposure) | : Category1 |
| Specific target organ systemic toxicity(repeated exposure) | : Category1 |
| Aspiration hazard | : Classification not possible |

ENVIRONMENTAL HAZARDS

| | |
|---------------------------------------------|-------------------------------|
| Hazard to the Aquatic Environment (Acute) | : Not classified |
| Hazard to the Aquatic Environment (Chronic) | : Classification not possible |

[Label elements]

Pictogram



Signal Word

: Danger

Hazard Statement

: Causes mild skin irritation
: Causes serious eye damage
: May cause an allergic skin reaction
: Causes damage to organs
: Causes damage to organs through prolonged or repeated exposure

Precautionary Statement

: Do not breathe dust/vapours etc..
: Do not eat, drink or smoke when using this product.

- : Get medical advice/attention if you feel unwell.
 - : Wash contaminated clothing before reuse.
 - : IF ON SKIN: Wash with plenty of soap and water.
 - : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - : IF exposed or concerned: Get medical advice/attention.
 - : If skin irritation occurs: Get medical advice/attention.
 - : If skin irritation or rash occurs: Get medical advice/attention.
 - : If eye irritation persists: Get medical advice/attention.
 - : Dispose in accordance with all current regulations and standards.
- [Other hazards] No information available.

3. Composition/information on ingredients

| [The chemical product is a substance or a mixture] | Mixture | |
|----------------------------------------------------|-------------------|---------------------------------------------|
| [Chemical nature] | [Component parts] | Ink [Ink quantity of product :about 1.05g] |
| Chemical name | Cas No. | Concentration range(wt%) |
| Water | 7732-18-5 | 50-80 |
| 1,2-Ethanediol | 107-21-1 | 10-30 |
| Additive | Trade secret | 10-30 |
| Triethanolamine | 102-71-6 | <10 |
| Coloring agent | Trade secret | <10 |
| Resin | Trade secret | <10 |

4. First aid measures

[Description of first aid measures]

- Eye contact**
- : Flush eyes with plenty of water for at least 15 minutes.
 - : Take off the contact lens if possible
 - : Consult medical advice depending on the symptoms.
- Skin contact**
- : Wash skin.
 - : Consult medical advice depending on the symptoms.
 - : Thoroughly clean and dry contaminated clothing and shoes before reuse.
- Ingestion**
- : Rinse mouth, give plenty of water to dilute. No specific intervention is indicated as compound is not likely to be hazardous by ingestion.
 - : Consult medical advice depending on the symptoms.
- Inhalation**
- : Due to its low vapor pressure inhalation is unlikely at room temperature.
 - : If not feeling well, move to an area of fresh air and rest.
 - : Consult medical advice depending on the symptoms.

[Most important symptoms and effects, both acute and delayed]

No information available.

[Indication of any immediate medical attention and special treatment needed]

No information available.

5. Firefighting measures

| | |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| [Extinguishing media] | Regular dry chemical, carbon dioxide, water, regular foam |
| [Special hazards arising from the substance or mixture] | No further relevant information available. |
| [Advice for firefighters] | Stay upwind and keep out of low areas and avoid inhalation of material or combustion by-products. Wear suitable protective equipment. |

6. Accidental release measures

| | |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [Personal precautions, protective equipment and emergency procedures] | Rope off the area to contain the leak and prohibit entrance except for authorized persons. Wear appropriate protection gear. Do not work in the leeward. |
| [Environmental precautions] | Collect leaked material in empty container after leading outflow to a safe area containing earth and sand. Do not allow leaked material to pollute rivers, lakes, etc. |
| [Methods and material for containment and cleaning up] | Wipe off by dry cloth and wash with water. Dispose of pollution or waste in accordance with national, state and local regulations. |
| [Reference to other sections] | No information available. |

7. Handling and storage

| | |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [Precautions for safe handling] | Do not lick or swallow the ink. Avoid contact with skin and eyes. Recap after use (if there is a cap), and keep out of the reach of infants. Don't shake. |
| [Conditions for safe storage, including any incompatibilities] | Keep away from oxidizing materials, ignition sources, high temperature and direct sunlight. Recommended temperature : 0-40°C |
| [Specific end use(s)] | No information available. |

8. Exposure controls/personal protection

| | | |
|----------------------|------|----------------------------|
| [Control parameters] | | |
| Chemical name | OSHA | ACGIH |
| 1,2-Ethanediol | - | (STEL)100mg/m ³ |
| Triethanolamine | - | (TWA)5mg/m ³ |

| | |
|------------------------|-----------------|
| [Exposure controls] | |
| Protective equipment | : Not required. |
| Respiratory protection | : Not required. |
| Hands protection | : Not required. |
| Eye protection | : Not required. |
| Skin protection | : Not required. |

9. Physical and chemical properties

[Information on basic physical and chemical properties]

| | |
|--------------------------|-----------------------------------------------------|
| Color | : Red |
| State | : Liquid |
| Odor | : No information available. |
| pH | : about 8.0 |
| Boiling point | : No information available.[Water 100.0°C] |
| Melting point | : No information available. |
| Flash point | : No information available.[1,2-Ethanediol 111.0°C] |
| Autoignition temperature | : No information available.[1,2-Ethanediol 398.0°C] |
| Explosion limits | : No information available. |
| Vapor density(air=1) | : No information available. |
| Density | : about 1.1 |
| Solubility in water | : No information available. |
| Evaporation rate | : No information available. |
| Volatile | : >80% |
| [Other information] | No information available. |

10. Stability and reactivity

| | |
|--------------------------------------|----------------------------------------------------------------------------------------------------------|
| [Chemical stability] | This mixture is stable in normal temperature, a condition of the pressure. |
| [Reactivity] | No data available. |
| [Conditions to avoid] | Avoid heat, flames, sparks and other sources of ignition. Avoid direct sunlight and high temperature. |
| [Incompatible materials] | No information available. |
| [Hazardous decomposition products] | No information available. |
| [Possibility of hazardous reactions] | No information available. |

11. Toxicological information

[Information on toxicological effects]

| | |
|------------------------------------|--------------------------------|
| Acute toxicity(oral) | |
| Not classified | : >2000 mg/kg (estimate value) |
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| Serious eye damage/Eye Irritation | |
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| Respiratory sensitizer | |
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Skin sensitizer

Triethanolamine : Category1

Germ cell mutagenicity

No information available.

Carcinogenicity

No information available.

Toxic to reproduction

No information available.

Specific target organ systemic toxicity(single exposure)

1,2-Ethanediol : Category1

Specific target organ systemic toxicity(repeated exposure)

1,2-Ethanediol : Category1

Aspiration hazard

No information available.

Hazard to the Aquatic Environment (Acute)

No information available.

Hazard to the Aquatic Environment (Chronic)

No information available.

12. Ecological information

No information available.

13. Disposal considerations

[Waste treatment methods]

Dispose in accordance with all current regulations and standards.

Do not allow it to flow into the drainages with waste fluid.

14. Transport information

[Environmental hazards] No information available.

[HS Code] 960810

[Special precautions for user] Check the container for any leakage. Load a cargo without a dropping or incurring damage, and take caution against collapse of container.

15. Regulatory information

TSCA : Listed on the TSCA inventory or polymer substance.

[Chemical safety assessment]

Ink or lead are manufactured in accordance with ISO 8124-3 "Safety of Toys - Part 3"

16. Other information

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