## Safety Data Sheet (SDS) Report

**Project Number:** **WUXH0003777702**

Applicant: Suzhou xiongying ink technology co.LTD.
Yun li road NO539 wujiang economic development zone of suzhou city,China.

Issue Date: 2015-12-15

Sample Description:

The sample information was submitted and identified on client's behalf to be:

| | | |
|---|---|---|
| Product Name | : | Oil ball- pen ink |
| Physical State | : | Liquid |
| Data Received | : | Dec 02, 2015 |
| Data Reviewed | : | Dec 15, 2015 |

Service Requested:

Based on the information provided by the applicant, the Safety Data Sheet (SDS) was generated in accordance with requirements of Regulations (EC) No 2015/830, Regulation (EC) No 1272/2008, for details please refer to attached pages.

Authorized By:

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# Oil ball- pen ink

**Suzhou xiongying ink technology co.LTD.**

Project number: **WUXH0003777702**

Version No:**1.0**
Safety Data Sheet (Conforms to Regulations (EC) No 2015/830)

Issue Date:**15/12/2015**
S.REACH.DEU.EN

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### 1.1.Product Identifier

| | |
|---|---|
| **Product name** | Oil ball- pen ink |
| **Synonyms** | Not Available |
| **Other means of identification** | Not Available |

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

| | |
|---|---|
| **Relevant identified uses** | For writting |
| **Uses advised against** | Not Applicable |

### 1.3. Details of the supplier of the safety data sheet

| | |
|---|---|
| **Registered company name** | Suzhou xiongying ink technology co.LTD. |
| **Address** | Yun li road NO539 wujiang economic development zone of suzhou city,China. |
| **Telephone** | +86-512-633313858 |
| **Fax** | +86-512-63320778 |
| **Emergency telephone** | +86-15962550010 |
| **Email** | zhangshenghong001@126.com |
| **Importer name** | |
| **Address** | |
| **Telephone** | |
| **Email** | |

### 1.4. Emergency telephone number

| | |
|---|---|
| **Association / Organisation** | |
| **Emergency telephone numbers** | |
| **Other emergency telephone numbers** | + 49 231 9071 2971(BAuA Information Centre) |

## SECTION 2 HAZARDS IDENTIFICATION

### 2.1.Classification of the substance or mixture

| | |
|---|---|
| **Classification according to regulation (EC) No 1272/2008 [CLP]** | Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2 |

### 2.2. Label elements

| | |
|---|---|
| **CLP label elements** |  |
| **SIGNAL WORD** | **WARNING** |

### Hazard statement(s)

| | |
|---|---|
| **H302** | Harmful if swallowed |
| **H315** | Causes skin irritation |
| **H319** | Causes serious eye irritation |

### Supplementary statement(s)

Not Applicable

### Precautionary statement(s) Prevention

**Continued...**

| | |
|---|---|
| **P101** | If medical advice is needed, have product container or label at hand. |
| **P102** | Keep out of reach of children. |
| **P103** | Read label before use. |
| **P270** | Do not eat, drink or smoke when using this product. |
| **P280** | Wear protective gloves/protective clothing/eye protection/face protection. |

### Precautionary statement(s) 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. |
| **P301+P312** | IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider/if you feel unwell. |
| **P302+P352** | IF ON SKIN: Wash with plenty of water and soap. |
| **P330** | Rinse mouth. |
| **P332+P313** | If skin irritation occurs: Get medical advice/attention. |
| **P362+P364** | Take off contaminated clothing and wash it before reuse. |

### Precautionary statement(s) Storage

Not Applicable

### Precautionary statement(s) Disposal

| | |
|---|---|
| **P501** | Dispose of contents/container in accordance with local regulations. |

### 2.3. Other hazards

Inhalation may produce health damage*.

Cumulative effects may result following exposure*.

May produce skin discomfort*.

Repeated exposure potentially causes skin dryness and cracking*.

REACh - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

### 3.1.Substances

See 'Composition on ingredients' in Section 3.2

### 3.2.Mixtures

| **1.CAS No<br>2.EC No<br>3.Index No<br>4.REACH No** | **%[weight]** | **Name** | **Classification according to regulation (EC) No 1272/2008 [CLP]** |
|---|---|---|---|
| 1.122-99-6<br>2.204-589-7<br>3.603-098-00-9<br>4.Not Available | 25 | ethylene glycol phenyl ether | Acute Toxicity (Oral) Category 4, Eye Irritation Category 2; H302, H319 |
| 1.100-51-6<br>2.202-859-9<br>3.603-057-00-5<br>4.Not Available | 15 | benzyl alcohol | Acute Toxicity (Inhalation) Category 4, Acute Toxicity (Oral) Category 4; H332, H302 |
| 1.147-14-8<br>2.205-685-1<br>3.Not Available<br>4.Not Available | 15 | BX | Not Applicable |
| 1.1328-51-4<br>2.215-523-1<br>3.Not Available<br>4.Not Available | 15 | C.I. Solvent Blue 38 | Not Applicable |
| 1.4254-14-2<br>2.Not Available<br>3.Not Available<br>4.Not Available | 10 | R-(-)-propylene glycol | Not Applicable |
| 1.25054-06-2<br>2.Not Available<br>3.Not Available<br>4.Not Available | 10 | keton resin | Not Applicable |
| 1.66070-88-0<br>2.Not Available<br>3.Not Available<br>4.Not Available | 5 | castor oil/ phthalic anhydride/ glycerol alkyd resin | Not Applicable |

**Continued...**

| | | | |
|---|---|---|---|
| 1.102-71-6<br>2.203-049-8<br>3.Not Available<br>4.Not Available | 4 | triethanolamine | Not Applicable |
| 1.90506-69-7<br>2.291-933-4<br>3.Not Available<br>4.Not Available | 1 | phosphoric acid ester | Skin Corrosion/Irritation Category 1B; H314 |

## SECTION 4 FIRST AID MEASURES

### 4.1. Description of first aid measures

**General**

- **IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.**
- For advice, contact a Poisons Information Centre or a doctor.
- Urgent hospital treatment is likely to be needed.
- In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.
- If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist.
- If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.

**Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:**

- **INDUCE** vomiting with fingers down the back of the throat, **ONLY IF CONSCIOUS**. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

**NOTE:** Wear a protective glove when inducing vomiting by mechanical means.

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.

If this product comes in contact with the eyes:

- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

**Eye Contact**

If this product comes in contact with the eyes:

- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

**Skin Contact**

If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

**Inhalation**

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.

**Ingestion**

- **IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.**
- For advice, contact a Poisons Information Centre or a doctor.
- Urgent hospital treatment is likely to be needed.
- In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.
- If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist.
- If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.

**Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:**

- **INDUCE** vomiting with fingers down the back of the throat, **ONLY IF CONSCIOUS**. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

**NOTE:** Wear a protective glove when inducing vomiting by mechanical means.

### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
for copper intoxication:

- Unless extensive vomiting has occurred empty the stomach by lavage with water, milk, sodium bicarbonate solution or a 0.1% solution of potassium ferrocyanide (the resulting copper

**Continued...**

- ferrocyanide is insoluble).
- Administer egg white and other demulcents.
- Maintain electrolyte and fluid balances.
- Morphine or meperidine (Demerol) may be necessary for control of pain.
- If symptoms persist or intensify (especially circulatory collapse or cerebral disturbances, try BAL intramuscularly or penicillamine in accordance with the supplier's recommendations.
- Treat shock vigorously with blood transfusions and perhaps vasopressor amines.
- If intravascular haemolysis becomes evident protect the kidneys by maintaining a diuresis with mannitol and perhaps by alkalinising the urine with sodium bicarbonate.
- It is unlikely that methylene blue would be effective against the occassional methaemoglobinemia and it might exacerbate the subsequent haemolytic episode.
- Institute measures for impending renal and hepatic failure.

[GOSSELIN, SMITH & HODGE: Commercial Toxicology of Commercial Products]

- A role for activated for charcoals or emesis is, as yet, unproven.
- In severe poisoning CaNa2EDTA has been proposed.

[ELLENHORN & BARCELOUX: Medical Toxicology]

Clinical experience of benzyl alcohol poisoning is generally confined to premature neonates in receipt of preserved intravenous salines.

- Metabolic acidosis, bradycardia, skin breakdown, hypotonia, hepatorenal failure, hypotension and cardiovascular collapse are characteristic.
- High urine benzoate and hippuric acid as well as elevated serum benzoic acid levels are found.
- The so-called 'gasping syndrome describes the progressive neurological deterioration of poisoned neonates.
- Management is essentially supportive.

## SECTION 5 FIREFIGHTING MEASURES

### 5.1. Extinguishing media

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

### 5.2. Special hazards arising from the substrate or mixture

| | |
|---|---|
| **Fire Incompatibility** | ▸ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |

### 5.3. Advice for firefighters

| | |
|---|---|
| **Fire Fighting** | ▸ Alert Fire Brigade and tell them location and nature of hazard.<br>▸ Wear full body protective clothing with breathing apparatus.<br>▸ Prevent, by any means available, spillage from entering drains or water course.<br>▸ Use water delivered as a fine spray to control fire and cool adjacent area. |
| **Fire/Explosion Hazard** | ▸ Slight fire hazard when exposed to heat or flame.<br>▸ Heating may cause expansion or decomposition leading to violent rupture of containers.<br>▸ On combustion, may emit toxic fumes of carbon monoxide (CO).<br>Combustion products include; carbon dioxide ($CO_2$) aldehydes nitrogen oxides (NOx) sulfur oxides (SOx) other pyrolysis products typical of burning organic materialMay emit poisonous fumesMay emit corrosive fumes**WARNING**: Long standing in contact with air and light may result in the formation of potentially explosive peroxides. |

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

See section 8

### 6.2. Environmental precautions

See section 12

### 6.3. Methods and material for containment and cleaning up

| | |
|---|---|
| **Minor Spills** | ▸ Remove all ignition sources.<br>▸ Clean up all spills immediately.<br>▸ Avoid breathing vapours and contact with skin and eyes.<br>▸ Control personal contact with the substance, by using protective equipment. |
| **Major Spills** | Moderate hazard.<br>▸ Clear area of personnel and move upwind.<br>▸ Alert Fire Brigade and tell them location and nature of hazard.<br>▸ Wear breathing apparatus plus protective gloves. |

### 6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 HANDLING AND STORAGE

### 7.1. Precautions for safe handling

| | |
|---|---|
| **Safe handling** | The tendency of many ethers to form explosive peroxides is well documented. Ethers lacking non-methyl hydrogen atoms adjacent to the ether link are thought to be relatively safe<br>▸ **DO NOT** concentrate by evaporation, or evaporate extracts to dryness, as residues may contain explosive peroxides with DETONATION potential.<br>▸ Any static discharge is also a source of hazard.<br>▸ Before any distillation process remove trace peroxides by shaking with excess 5% aqueous ferrous sulfate solution or by percolation through a column of activated alumina.<br>The substance accumulates peroxides which may become hazardous only if it evaporates or is distilled or otherwise treated to concentrate the peroxides. The substance may concentrate around the container opening for example.<br>Purchases of peroxidisable chemicals should be restricted to ensure that the chemical is used completely before it can become peroxidised.<br>▸ A responsible person should maintain an inventory of peroxidisable chemicals or annotate the general chemical inventory to indicate which chemicals are |

**Continued...**

| | |
|---|---|
| | ▸ subject to peroxidation.<br>▸ Avoid all personal contact, including inhalation.<br>▸ Wear protective clothing when risk of exposure occurs.<br>▸ Use in a well-ventilated area.<br>▸ Prevent concentration in hollows and sumps.<br>▸ **DO NOT** allow clothing wet with material to stay in contact with skin |
| **Fire and explosion protection** | See section 5 |
| **Other information** | ▸ Store in original containers.<br>▸ Keep containers securely sealed.<br>▸ No smoking, naked lights or ignition sources.<br>▸ Store in a cool, dry, well-ventilated area. |

### 7.2. Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Suitable container** | ▸ Polythene drum.<br>▸ Packaging as recommended by manufacturer.<br>▸ Check all containers are clearly labelled and free from leaks. |
| **Storage incompatibility** | Benzyl alcohol:<br>▸ may froth in contact with water<br>▸ slowly oxidises in air, oxygen forming benzaldehyde<br>▸ is incompatible with mineral acids, caustics, aliphatic amines, isocyanates<br>▸ reacts violently with strong oxidisers, and explosively with sulfuric acid at elevated temperatures<br>▸ corrodes aluminium at high temperatures<br>▸ is incompatible with aluminum, iron, steel<br>▸ attacks some nonfluorinated plastics; may attack, extract and dissolve polypropylene<br>Benzyl alcohol contaminated with 1.4% hydrogen bromide and 1.2% of dissolved iron(II) polymerises exothermically above 100 deg. C.<br><br>▸ Glycol ethers may form peroxides under certain conditions; the potential for peroxide formation is enhanced when these substances are used in processes such as distillation where they are concentrated or even evaporated to near-dryness or dryness; storage under a nitrogen atmosphere is recommended to minimise the possible formation of highly reactive peroxides<br>▸ Nitrogen blanketing is recommended if transported in containers at temperatures within 15 deg C of the flash-point and at or above the flash-point - large containers may first need to be purged and inerted with nitrogen prior to loading<br>▸ In the presence of strong bases or the salts of strong bases, at elevated temperatures, the potential exists for runaway reactions.<br>▸ Contact with aluminium should be avoided; release of hydrogen gas may result- glycol ethers will corrode scratched aluminium surfaces.<br>▸ May discolour in mild steel/ copper; lined containers, glass or stainless steel is preferred<br>▸ Glycols and their ethers undergo violent decomposition in contact with 70% perchloric acid. This seems likely to involve formation of the glycol perchlorate esters (after scission of ethers) which are explosive, those of ethylene glycol and 3-chloro-1,2-propanediol being more powerful than glyceryl nitrate, and the former so sensitive that it explodes on addition of water .<br>▸ Avoid strong bases.<br>▸ Avoid reaction with oxidising agents |

### 7.3. Specific end use(s)

See section 1.2

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1. Control parameters

**DERIVED NO EFFECT LEVEL (DNEL)**

Not Available

**PREDICTED NO EFFECT LEVEL (PNEC)**

Not Available

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

**INGREDIENT DATA**

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|---|---|---|---|---|---|---|
| Germany Recommended Exposure Limits - MAK Values (English) | ethylene glycol phenyl ether | 2-Phenoxyethanol | 110 mg/m3 / 20 ppm | I (2) ppm | Not Available | Not Available |
| Germany TRGS 900 - Limit Values for the Workplace Atmosphere (German) | ethylene glycol phenyl ether | 2-Phenoxyethanol | 110 mg/m3 / 20 ppm | Not Available | Not Available | Not Available |
| Germany Recommended Exposure Limits - Substances for which no MAK value can be established at present | benzyl alcohol | Benzyl alcohol | Not Available | Not Available | Not Available | Not Available |
| Germany Recommended Exposure Limits - MAK Values (English) | triethanolamine | Triethanolamine | 5 mg/m3 | I(4) ppm | Not Available | Not Available |

**EMERGENCY LIMITS**

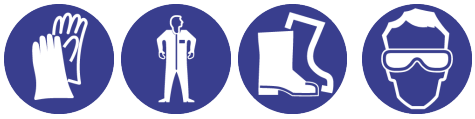
| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|---|---|---|---|---|
| ethylene glycol phenyl ether | Phenoxyethanol, 2-; (Phenyl cellosolve) | 20 ppm | 20 ppm | 44 ppm |
| benzyl alcohol | Benzyl alcohol | 30 ppm | 49 ppm | 49 ppm |

**Continued...**

| | | | | |
|---|---|---|---|---|
| triethanolamine | Triethanolamine; (Trihydroxytriethylamine) | 15 mg/m3 | 51 mg/m3 | 1100 mg/m3 |

| Ingredient | Original IDLH | Revised IDLH |
|---|---|---|
| All ingredients | Not Available | Not Available |

### 8.2. Exposure controls

| | |
|---|---|
| **8.2.1. Appropriate engineering controls** | Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.<br>The basic types of engineering controls are:<br>Process controls which involve changing the way a job activity or process is done to reduce the risk.<br>Enclosure and/or isolation of emission source which keeps a selected hazard 'physically' away from the worker and ventilation that strategically 'adds' and 'removes' air in the work environment. |
| **8.2.2. Personal protection** |  |
| **Eye and face protection** | ▸ Safety glasses with side shields.<br>▸ Chemical goggles.<br>▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. |
| **Skin protection** | See Hand protection below |
| **Hands/feet protection** | ▸ Wear chemical protective gloves, e.g. PVC.<br>▸ Wear safety footwear or safety gumboots, e.g. Rubber<br>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.<br>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and.has to be observed when making a final choice.<br>Suitability and durability of glove type is dependent on usage. |
| **Body protection** | See Other protection below |
| **Other protection** | ▸ Overalls.<br>▸ P.V.C. apron.<br>▸ Barrier cream. |
| **Thermal hazards** | Not Available |

### Respiratory protection

Type ABK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

### 8.2.3. Environmental exposure controls

See section 12

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | Blue Liquid |

| | | | |
|---|---|---|---|
| **Physical state** | Liquid | **Relative density (Water = 1)** | Not Available |
| **Odour** | Not Available | **Partition coefficient n-octanol / water** | Not Available |
| **Odour threshold** | Not Available | **Auto-ignition temperature (°C)** | Not Available |
| **pH (as supplied)** | Not Available | **Decomposition temperature** | Not Available |
| **Melting point / freezing point (°C)** | Not Available | **Viscosity (cSt)** | Not Available |
| **Initial boiling point and boiling range (°C)** | Not Available | **Molecular weight (g/mol)** | Not Available |
| **Flash point (°C)** | Not Available | **Taste** | Not Available |
| **Evaporation rate** | Not Available | **Explosive properties** | Not Available |
| **Flammability** | Not Flammable | **Oxidising properties** | Not Available |
| **Upper Explosive Limit (%)** | Not Available | **Surface Tension (dyn/cm or mN/m)** | Not Available |
| **Lower Explosive Limit (%)** | Not Available | **Volatile Component (%vol)** | Not Available |
| **Vapour pressure (kPa)** | Not Available | **Gas group** | Not Available |
| **Solubility in water (g/L)** | Not Available | **pH as a solution (1%)** | Not Available |
| **Vapour density (Air = 1)** | Not Available | **VOC g/L** | Not Available |

### 9.2. Other information

**Continued...**

Not Available

## SECTION 10 STABILITY AND REACTIVITY

| | |
|---|---|
| **10.1.Reactivity** | See section 7.2 |
| **10.2.Chemical stability** | ▸ Unstable in the presence of incompatible materials.<br>▸ Product is considered stable.<br>▸ Hazardous polymerisation will not occur. |
| **10.3. Possibility of hazardous reactions** | See section 7.2 |
| **10.4. Conditions to avoid** | See section 7.2 |
| **10.5. Incompatible materials** | See section 7.2 |
| **10.6. Hazardous decomposition products** | See section 5.3 |

## SECTION 11 TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

| | |
|---|---|
| **Inhaled** | The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.<br>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.<br>Copper poisoning following exposure to copper dusts and fume may result in headache, cold sweat and weak pulse. Capillary, kidney, liver and brain damage are the longer term manifestations of such poisoning. Inhalation of freshly formed metal oxide particles sized below 1.5 microns and generally between 0.02 to 0.05 microns may result in 'metal fume fever'. Symptoms may be delayed for up to 12 hours and begin with the sudden onset of thirst, and a sweet, metallic or foul taste in the mouth.<br>Inhalation of benzyl alcohol may affect breathing (causing depression and paralysis of breathing and lower blood pressure. |
| **Ingestion** | Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.<br>Ingestion of propylene glycol produced reversible central nervous system depression in humans following ingestion of 60 ml. Symptoms included increased heart-rate (tachycardia), excessive sweating (diaphoresis) and grand mal seizures in a 15 month child who ingested large doses (7.5 ml/day for 8 days) as an ingredient of vitamin preparation.<br>Excessive repeated ingestions may cause hypoglycaemia (low levels of glucose in the blood stream) among susceptible individuals; this may result in muscular weakness, incoordination and mental confusion.<br>Very high doses given during feeding studies to rats and dogs produce central nervous system depression (although one-third of that produced by ethanol), haemolysis and insignificant kidney changes.<br>A metallic taste, nausea, vomiting and burning feeling in the upper stomach region occur after ingestion of copper and its derivatives. The vomitus is usually green/blue and discolours contaminated skin.<br>Ingestion of large doses of benzyl alcohol may cause abdominal pain, nausea, vomiting, diarrhea. It may affect behavior/central nervous system and cause headache, somnolence, excitement, dizziness, ataxia, coma, convulsions, and other symptoms of central nervous system depression.<br>Exposure to excessive amounts of benzyl alcohol has been associated with toxicity (hypotension, metabolic acidosis), particularly in neonates, and an increased incidence of kernicterus (a neurological condition that occurs in severe jaundice), particularly in small preterm infants. There have been rare reports of deaths, primarily in preterm infants, associated with exposure to excessive amounts of benzyl alcohol. |
| **Skin Contact** | There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons.<br>Toxic effects may result from skin absorption<br>Exposure to copper, by skin, has come from its use in pigments, ointments, ornaments, jewellery, dental amalgams and IUDs (intra-uterine devices), and in killing fungi and algae. Although copper is used in the treatment of water in swimming pools and reservoirs, there are no reports of toxicity from these applications.<br>Open cuts, abraded or irritated skin should not be exposed to this material<br>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. |
| **Eye** | This material can cause eye irritation and damage in some persons.<br>Copper salts, in contact with the eye, may produce inflammation of the conjunctiva, or even ulceration and cloudiness of the cornea. |
| **Chronic** | There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.<br>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.<br>Because of similarities in structure to thalidomide, concerns have been raised about the potential teratogenicity of all phthalimides (the basic building block of phthalocyanine). Animal studies, in part, appear to support this proposition.<br>The phthalimide fungicides are typically teratogens. Captan, for example, is teratogenic, foetotoxic, and/or embryotoxic in a variety of rodent species and has caused stillbirths in dogs.<br>Reactions to benzoic acid have been reported. It may worsen asthma, skin rash or skin disease (angio-oedema). Effect may be worse if exposed persons are also taking aspirin tablets.<br>Copper has fairly low toxicity. Some rare hereditary conditions (Wilson disease or hepatolenticular degeneration) can lead to accumulation of copper on exposure, causing irreversible damage to a variety of organs (liver, kidney, CNS, bone, vision) and lead to death.<br>Prolonged or repeated exposure to benzyl alcohol may cause allergic contact dermatitis.<br>Prolonged or repeated ingestion may affect behavior/central nervous system with symptoms similar to acute ingestion. It may also affect the liver, kidneys, cardiovascular system, and metabolism (weight loss).<br>Animal studies have shown this compound to cause lung, liver, kidney and CNS disorders.<br>Ethylene glycol esters and their ethers cause wasting of the testicles, reproductive changes, infertility and changes to kidney function. Shorter chain compounds are more dangerous.<br>Case studies indicate that ethylene glycol phenyl ether (EGPE) causes acute damage to the nervous system, and chronic solvent-induced brain syndrome with repeated exposure. Constant irritability, depression, impaired memory and mental function may occur after 1-2 years of occupational exposure (e.g. among constantly exposed fish hatchery workers). Other symptoms include alcohol intolerance, abnormal breathing and heart rate, motor imbalance and rash.<br>Excessive exposure may cause breakdown of red blood cells. |

| | | |
|---|---|---|
| **Oil ball- pen ink** | **TOXICITY** | **IRRITATION** |
| | Not Available | Not Available |

**Continued...**

| | |
|---|---|
| **ethylene glycol phenyl ether** | |

| TOXICITY | IRRITATION |
|---|---|
| dermal (rat) LD50: 14391 mg/kg[1] | Eye (rabbit): 250 ug/24h - SEVERE |
| Oral (rat) LD50: 1386 mg/kg[1] | Eye (rabbit): 6 mg - moderate |
| | Skin (rabbit): 500 mg/24h - mild |

**benzyl alcohol**

| TOXICITY | IRRITATION |
|---|---|
| dermal (rat) LD50: 1000000 ppm/90M[2] | Skin (man): 16 mg/48h-mild |
| Inhalation (rat) LC50: >4.178 mg/L/4h[2] | Skin (rabbit):10 mg/24h open-mild |
| Oral (rat) LD50: 1560 mg/kg[2] | |

**BX**

| TOXICITY | IRRITATION |
|---|---|
| Oral (rat) LD50: >10000 mg/kg[2] | [Manuf. C.G.] |
| | Eye (human): non-irritant |
| | Skin (human): non-irritant |

**R-(-)-propylene glycol**

| TOXICITY | IRRITATION |
|---|---|
| Dermal (rabbit) LD50: 11890 mg/kgd[2] | Eye (rabbit): 100 mg - mild |
| Oral (rat) LD50: 20000 mg/kgd[2] | Eye (rabbit): 500 mg/24h - mild |
| | Skin(human):104 mg/3d Intermit Mod |
| | Skin(human):500 mg/7days mild |

**triethanolamine**

| TOXICITY | IRRITATION |
|---|---|
| dermal (rat) LD50: >18080 mg/kg[2] | Eye (rabbit): 0.1 ml - |
| Oral (rat) LD50: 5559.6 mg/kg(female) *[2] | Eye (rabbit): 10 mg - mild |
| | |
| | minor conjunctival irritation |
| | minor iritis, |
| | no corneal injury * |
| | no irritation * |
| | Skin (human): 15 mg/3d (int)-mild |
| | Skin (rabbit): 4 h occluded |
| | Skin (rabbit): 560 mg/24 hr- mild |
| | with significant discharge; |

***Legend:*** *1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*

| | | | |
|---|---|---|---|
| **Acute Toxicity** | ✔ | **Carcinogenicity** | ⊘ |
| **Skin Irritation/Corrosion** | ✔ | **Reproductivity** | ⊘ |
| **Serious Eye Damage/Irritation** | ✔ | **STOT - Single Exposure** | ⊘ |
| **Respiratory or Skin sensitisation** | ⊘ | **STOT - Repeated Exposure** | ⊘ |
| **Mutagenicity** | ⊘ | **Aspiration Hazard** | ⊘ |

***Legend:*** ✘ *– Data available but does not fill the criteria for classification*
✔ *– Data required to make classification available*
⊘ *– Data Not Available to make classification*

## SECTION 12 ECOLOGICAL INFORMATION

### 12.1. Toxicity

| Ingredient | Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|---|
| ethylene glycol phenyl ether | EC50 | 384 | Crustacea | 25.027mg/L | 3 |
| ethylene glycol phenyl ether | EC50 | 96 | Algae or other aquatic plants | 429.444mg/L | 3 |
| ethylene glycol phenyl ether | LC50 | 96 | Fish | 106.514mg/L | 3 |
| ethylene glycol phenyl ether | NOEC | 24 | Fish | 5mg/L | 2 |
| ethylene glycol phenyl ether | EC50 | 48 | Crustacea | 460mg/L | 2 |
| benzyl alcohol | EC03 | 168 | Algae or other aquatic plants | =16mg/L | 4 |

**Continued...**

| | | | | | |
|---|---|---|---|---|---|
| **benzyl alcohol** | LC50 | 96 | Fish | 10mg/L | 4 |
| **benzyl alcohol** | NOEC | 336 | Fish | 5.1mg/L | 2 |
| **benzyl alcohol** | EC50 | 48 | Crustacea | 230mg/L | 2 |
| **benzyl alcohol** | EC50 | 72 | Algae or other aquatic plants | 500mg/L | 2 |
| **BX** | LC50 | 96 | Fish | ca.46mg/L | 2 |
| **BX** | EC50 | 48 | Crustacea | >100mg/L | 2 |
| **BX** | EC50 | 504 | Crustacea | >1mg/L | 2 |
| **BX** | NOEC | 504 | Crustacea | >=1mg/L | 2 |
| **BX** | EC50 | 72 | Algae or other aquatic plants | >100mg/L | 2 |
| **R-(-)-propylene glycol** | EC50 | 384 | Crustacea | 311.145mg/L | 3 |
| **R-(-)-propylene glycol** | EC50 | 96 | Algae or other aquatic plants | 10905.921mg/L | 3 |
| **R-(-)-propylene glycol** | LC50 | 96 | Fish | 1382.810mg/L | 3 |
| **triethanolamine** | LC50 | 96 | Fish | 0.0011807mg/L | 4 |
| **triethanolamine** | EC10 | 96 | Algae or other aquatic plants | 7.1mg/L | 1 |
| **triethanolamine** | EC50 | 48 | Crustacea | 609.88mg/L | 2 |
| **triethanolamine** | NOEC | 504 | Crustacea | 16mg/L | 2 |
| **triethanolamine** | EC50 | 72 | Algae or other aquatic plants | >107- <260mg/L | 2 |
| ***Legend:*** | *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data* | | | | |

For Ethelene Glycol MonoalkylEthers and their Acetates:
log BCF: 0.463 to 0.732;
LC50 : 94 to > 5000 mg/L.(aquatic species).
Members of this category includeethylene glycol propyl ether (EGPE), ethylene glycol butyl ether (EGBE) andethylene glycol hexyl ether (EGHE).
Environmental Fate: Aquatic Fate -The ethers possess no functional groups that are readily subject to hydrolysisin the presence of waters.
For solvent dyes:
Environmental Fate: Solvent dyesare characterised as non-ionic or neutral dyes, and are hydrophobic incharacter and thus solubility in water is low, ranging from 0.2 mg/l to 34.3mg/l. Solvent dyes, like the disperse dyes, are hydrophobic. However, due totheir large, complex molecular structure, they have lower vapour pressures thandisperse dyes. The partition coefficients (Kow) are very high for the non-ionicdyes (in the range of 420 for Solvent Yellow 1 to 11,220 for Solvent Yellow 2).
NOTE: Because ofsimilarities in structure to thalidomide, concerns have been raised about thepotential of all phthalimides (the basic building block of phthalocyanine) tocause malformation of a foetus in animals exposed to it. Animal studies, inpart, appear to support this proposition. Phthalocyanine dyes are probably notbiodegradable. Reversible reduction and decolourisation occurs under anaerobicconditions.
For Glycol Ethers:
Environmental Fate: Several glycolethers have been shown to biodegrade however; biodegradation slows as molecularweight increases. No glycol ethers that have been tested demonstrate markedresistance to biodegradative processes. No glycol ethers that have been testeddemonstrate marked resistance to biodegradative processes.
Atmospheric Fate: Upon release tothe atmosphere by evaporation, high boiling glycol ethers are estimated toundergo photo-degradation (atmospheric half lives = 2.4-2.5 hr).
For Benzyl Alkyl Alcohols: Log Kow: 1.36 to 2.06; Vapor Pressure: 0.01 to 0.1 hPa (@ room temperature); Water Solubility: >5x10+3 mg/L.
Environmental Fate: Benzyl alkyl alcohols are liquids, under standard temperature and pressure conditions. These substances will partition primarily to the soil, secondarily to the water, and very slightly to the air.
Atmospheric Fate: Benzyl alcohol is expected to exist almost entirely in the vapor phase, in the ambient atmosphere.
For benzoates:
The environmental characteristicsfor benzoates is ultimately determined by the properties of counter-ions, andis assumed to be non-toxic.
Environmental Exposure and Fate:Distribution models indicate that water and soil are the main environmentalpathways of benzyl alcohol, benzoic acid, sodium and potassium benzoates. Novolalization to the atmosphere or adsorption to sediments is expected. Physicalchemical properties and use patterns indicate water to be the main pathway forthese substances, however, based on the chemical structure and organicchemistry, no hydrolysis is expected at pH ranges of 4 – 11.
For copper:
Atmospheric Fate - Copper isunlikely to accumulate in the atmosphere due to a short residence time forairborne copper aerosols. Airborne coppers, however, may be transported overlarge distances. Air Quality Standards: no data available.
Aquatic Fate: Toxicity of copperis affected by pH and hardness of water.
For benzyl alcohol: log Kow :1.1Koc : <5Henry's atm m3 /mol: 3.91E-07BOD 5: 1.55-1.6,33-62%COD : 96%ThOD: 2.519BCF : 4
Bioaccumulation: Not significant
Anaerobic Effects: Significantdegradation.
Effects on algae and plankton:Inhibits degradation of glucose
Degradation Biological:Significant processes
Abiotic: RxnOH*,no photochem
Ecotoxicity: Fish LC50 (48 h):fathead minnow 770 mg/l; (72 h): 480 mg/l; (96 h) 460 mg/l. Fish LC50 (96 h)fathead minnow 10 ppm, bluegill sunfish 15 ppm; tidewater silverside fish 15ppm.
Products of Biodegradation: Possibly hazardous short term degradationproducts are not likely.
For copper: Ecotoxicity -Significant effects are expected on various species of microalgae, some speciesof macroalgae, and a range of invertebrates, including crustaceans, gastropodsand sea urchins. Copper is moderately toxic to crab and their larvae and ishighly toxic to gastropods (mollusks, including oysters, mussels and clams). Infish, the acute lethal concentrations of copper depends both on test speciesand exposure conditions. Waters with high concentrations of copper can havesignificant effects on diatoms and sensitive invertebrates, notably cladocerans(water fleas).
For Copper: Typical foliar levelsof copper are: Uncontaminated soils (0.3-250 mg/kg) ; Contaminated soils(150-450 mg/kg) ; Mining/smelting soils (6.1-25 mg/kg80 mg/kg300 mg/kg).
Terrestrial Fate: Plants -Generally, vegetation reflects soil copper levels in its foliage. This isdependent upon the bioavailability of copper and the physiological requirementsof species concerned. Crops are often more sensitive to copper than the nativeflora.
**DO NOT** discharge into sewer or waterways.

### 12.2. Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|---|---|---|
| ethylene glycol phenyl ether | LOW | LOW |
| benzyl alcohol | LOW | LOW |
| BX | HIGH | HIGH |
| R-(-)-propylene glycol | LOW | LOW |
| triethanolamine | LOW | LOW |

**Continued...**

### 12.3. Bioaccumulative potential

| Ingredient | Bioaccumulation |
|---|---|
| ethylene glycol phenyl ether | LOW (LogKOW = 1.16) |
| benzyl alcohol | LOW (LogKOW = 1.1) |
| BX | LOW (BCF = 33) |
| R-(-)-propylene glycol | LOW (LogKOW = -0.782) |
| triethanolamine | LOW (BCF = 4) |

### 12.4. Mobility in soil

| Ingredient | Mobility |
|---|---|
| ethylene glycol phenyl ether | LOW (KOC = 12.12) |
| benzyl alcohol | LOW (KOC = 15.66) |
| BX | LOW (KOC = 10000000000) |
| R-(-)-propylene glycol | HIGH (KOC = 1) |
| triethanolamine | LOW (KOC = 10) |

### 12.5.Results of PBT and vPvB assessment

| | P | B | T |
|---|---|---|---|
| Relevant available data | Not Available | Not Available | Not Available |
| PBT Criteria fulfilled? | Not Available | Not Available | Not Available |

### 12.6. Other adverse effects

No data available

## SECTION 13 DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

| | |
|---|---|
| **Product / Packaging disposal** | ▸ Containers may still present a chemical hazard/ danger when empty.<br>▸ Return to supplier for reuse/ recycling if possible.<br>Otherwise:<br>▸ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.<br>▸ Where possible retain label warnings and SDS and observe all notices pertaining to the product.<br>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.<br>A Hierarchy of Controls seems to be common - the user should investigate:<br>▸ Reduction<br>▸ Reuse<br>▸ Recycling<br>▸ Disposal (if all else fails)<br>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.<br>▸ **DO NOT** allow wash water from cleaning or process equipment to enter drains.<br>▸ It may be necessary to collect all wash water for treatment before disposal.<br>▸ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.<br>▸ Where in doubt contact the responsible authority.<br>▸ Recycle wherever possible or consult manufacturer for recycling options.<br>▸ Consult State Land Waste Authority for disposal.<br>▸ Bury or incinerate residue at an approved site.<br>▸ Recycle containers if possible, or dispose of in an authorised landfill. |
| **Waste treatment options** | Not Available |
| **Sewage disposal options** | Not Available |

## SECTION 14 TRANSPORT INFORMATION

### Labels Required

| | |
|---|---|
| **Marine Pollutant** | NO |

### Land transport (ADR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

| | |
|---|---|
| **14.1.UN number** | Not Applicable |
| **14.2.Packing group** | Not Applicable |
| **14.3.UN proper shipping name** | Not Applicable |
| **14.4.Environmental hazard** | Not Applicable |
| **14.5. Transport hazard class(es)** | Class: Not Applicable<br>Subrisk: Not Applicable |

**Continued...**

| | |
|---|---|
| **14.6. Special precautions for user** | Hazard identification (Kemler): Not Applicable<br>Classification code: Not Applicable<br>Hazard Label: Not Applicable<br>Special provisions: Not Applicable<br>Limited quantity: Not Applicable |

**Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

| | |
|---|---|
| **14.1. UN number** | Not Applicable |
| **14.2. Packing group** | Not Applicable |
| **14.3. UN proper shipping name** | Not Applicable |
| **14.4. Environmental hazard** | Not Applicable |
| **14.5. Transport hazard class(es)** | ICAO/IATA Class: Not Applicable<br>ICAO / IATA Subrisk: Not Applicable<br>ERG Code: Not Applicable |
| **14.6. Special precautions for user** | Special provisions: Not Applicable<br>Cargo Only Packing Instructions: Not Applicable<br>Cargo Only Maximum Qty / Pack: Not Applicable<br>Passenger and Cargo Packing Instructions: Not Applicable<br>Passenger and Cargo Maximum Qty / Pack: Not Applicable<br>Passenger and Cargo Limited Quantity Packing Instructions: Not Applicable<br>Passenger and Cargo Limited Maximum Qty / Pack: Not Applicable |

**Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

| | |
|---|---|
| **14.1. UN number** | Not Applicable |
| **14.2. Packing group** | Not Applicable |
| **14.3. UN proper shipping name** | Not Applicable |
| **14.4. Environmental hazard** | Not Applicable |
| **14.5. Transport hazard class(es)** | IMDG Class: Not Applicable<br>IMDG Subrisk: Not Applicable |
| **14.6. Special precautions for user** | EMS Number: Not Applicable<br>Special provisions: Not Applicable<br>Limited Quantities: Not Applicable |

**Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

| | |
|---|---|
| **14.1. UN number** | Not Applicable |
| **14.2. Packing group** | Not Applicable |
| **14.3. UN proper shipping name** | Not Applicable |
| **14.4. Environmental hazard** | Not Applicable |
| **14.5. Transport hazard class(es)** | Not Applicable: Not Applicable |
| **14.6. Special precautions for user** | Classification code: Not Applicable<br>Special provisions: Not Applicable<br>Limited quantity: Not Applicable<br>Equipment required: Not Applicable<br>Fire cones number: Not Applicable |

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

| Source | Ingredient | Pollution Category |
|---|---|---|

**Continued...**

| | | |
|---|---|---|
| IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk | ethylene glycol phenyl ether | Z |
| IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk | benzyl alcohol | Y |
| IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk | BX | X |
| IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk | triethanolamine | Z |

## SECTION 15 REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture

**ETHYLENE GLYCOL PHENYL ETHER(122-99-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

European Customs Inventory of Chemical Substances ECICS (English)
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)
European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31
European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI
Germany Recommended Exposure Limits - MAK Values - Pregnancy Risk Group Classifications & Germ Cell Mutagens
Germany Recommended Exposure Limits - MAK Values (English)
Germany TRGS 900 - Limit Values for the Workplace Atmosphere (German)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

**BENZYL ALCOHOL(100-51-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances
European Customs Inventory of Chemical Substances ECICS (English)
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)
European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31
European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI
Germany Recommended Exposure Limits - Substances for which no MAK value can be established at present

**BX(147-14-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
European Customs Inventory of Chemical Substances ECICS (English)
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)
Germany Recommended Exposure Limits - MAK Values - Carcinogens
Germany Recommended Exposure Limits - MAK Values - Pregnancy Risk Group Classifications & Germ Cell Mutagens
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

**C.I. SOLVENT BLUE 38(1328-51-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

**R-(-)-PROPYLENE GLYCOL(4254-14-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

European Customs Inventory of Chemical Substances ECICS (English)

**KETON RESIN(25054-06-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Not Applicable

**CASTOR OIL/ PHTHALIC ANHYDRIDE/ GLYCEROL ALKYD RESIN(66070-88-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Not Applicable

**TRIETHANOLAMINE(102-71-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances
European Customs Inventory of Chemical Substances ECICS (English)
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)
Germany Recommended Exposure Limits - MAK Values - Pregnancy Risk Group Classifications & Germ Cell Mutagens
Germany Recommended Exposure Limits - MAK Values (English)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

**PHOSPHORIC ACID ESTER(90506-69-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - :98/24/EC, 92/85/EC, 94/33/EC, 91/689/EEC, 1999/13/EC, Commission Regulation (EU) 2015/830, Regulation (EC) No 1272/2008 and their amendments as well as the following British legislation: - The Control of Substances Hazardous to Health Regulations (COSHH) 2002 - COSHH Essentials - The Management of Health and Safety at Work Regulations 1999

### 15.2. Chemical safety assessment

For further information please look at the Chemical Safety Assessment and Exposure Scenarios prepared by your Supply Chain if available.

### 15.3. Classification of Substances and Mixtures into Water Hazard Classes

**PREPARATION IS WGK NON-HAZARDOUS TO WATERS**

| Name | WGK | Score | Source |
|---|---|---|---|
| ETHYLENE GLYCOL PHENYL ETHER | non-hazardous to waters | | W: VwVwS |
| BENZYL ALCOHOL | non-hazardous to waters | | W: VwVwS |

**Continued...**

| | | | |
|---|---|---|---|
| BX | non-hazardous to waters | | W: VwVwS |
| C.I. SOLVENT BLUE 38 | non-hazardous to waters | 0 | W: VwVwS |
| R-(-)-PROPYLENE GLYCOL | non-hazardous to waters | 0 | W: VwVwS |
| keton resin | non-hazardous to waters | 0 | W: VwVwS |
| CASTOR OIL/ PHTHALIC ANHYDRIDE/ GLYCEROL ALKYD RESIN | non-hazardous to waters | 0 | W: VwVwS |
| TRIETHANOLAMINE | non-hazardous to waters | | W: VwVwS |
| phosphoric acid ester | non-hazardous to waters | 0 | W: VwVwS |

| National Inventory | Status |
|---|---|
| Australia - AICS | N (R-(-)-propylene glycol; phosphoric acid ester; C.I. Solvent Blue 38) |
| Canada - DSL | N (phosphoric acid ester) |
| Canada - NDSL | N (benzyl alcohol; R-(-)-propylene glycol; keton resin; castor oil/ phthalic anhydride/ glycerol alkyd resin; triethanolamine; phosphoric acid ester; ethylene glycol phenyl ether; BX; C.I. Solvent Blue 38) |
| China - IECSC | N (R-(-)-propylene glycol) |
| Europe - EINEC / ELINCS / NLP | N (R-(-)-propylene glycol; keton resin; castor oil/ phthalic anhydride/ glycerol alkyd resin) |
| Japan - ENCS | N (R-(-)-propylene glycol; castor oil/ phthalic anhydride/ glycerol alkyd resin; phosphoric acid ester) |
| Korea - KECI | N (R-(-)-propylene glycol; phosphoric acid ester) |
| New Zealand - NZIoC | N (R-(-)-propylene glycol; castor oil/ phthalic anhydride/ glycerol alkyd resin; phosphoric acid ester; C.I. Solvent Blue 38) |
| Philippines - PICCS | N (phosphoric acid ester) |
| USA - TSCA | N (R-(-)-propylene glycol; phosphoric acid ester; C.I. Solvent Blue 38) |
| ***Legend:*** | *Y = All ingredients are on the inventory*<br>*N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)* |

## SECTION 16 OTHER INFORMATION

### Full text Risk and Hazard codes

| | |
|---|---|
| **H314** | Causes severe skin burns and eye damage |
| **H332** | Harmful if inhaled |

### Other information

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:
EN 166 Personal eye-protection
EN 340 Protective clothing
EN 374 Protective gloves against chemicals and micro-organisms
EN 13832 Footwear protecting against chemicals
EN 133 Respiratory protective devices

### Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index