# Ultracolor 1016 BLACK P.O. INK TYPE B

**Chemwatch Material Safety Data Sheet**

**Issue Date: 6-Dec-2007**

**NC317TCP**

**CHEMWATCH 44067**

**Version No:2.0**

## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME

ULTRACOLOR 1016 BLACK P.O. INK TYPE B

### SYNONYMS

"post office stamping ink post marking ink"

### PRODUCT USE

Post office stamping ink.

### SUPPLIER

Company: Zeus Chemical Products Pty Ltd
Address:
3 Anderson Place
South Windsor
NSW, 2756
AUS
Telephone: +61 2 4577 4866
Fax: +61 2 4577 6919

### HAZARD RATINGS

| | |
|---|---|
| Flammability | 1 |
| Toxicity | 0 |
| Body Contact | 2 |
| Reactivity | 0 |
| Chronic | 0 |

SCALE: Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4

## Section 2 - HAZARDS IDENTIFICATION

### STATEMENT OF HAZARDOUS NATURE

**HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.**

COMBUSTIBLE LIQUID, regulated under AS1940 for Bulk Storage purposes only.

**POISONS SCHEDULE**

None

| RISK | SAFETY |
|---|---|
| Irritating to skin.<br>Cumulative effects may result following exposure*.<br>May produce discomfort of the eyes*.<br>* (limited evidence). | Do not breathe gas/ fumes/ vapour/ spray.<br>Avoid contact with skin.<br>Wear eye/ face protection.<br>To clean the floor and all objects contaminated by this material use water and detergent.<br>In case of contact with eyes rinse with plenty of water and contact Doctor or Poisons Information Centre.<br>If swallowed IMMEDIATELY contact Doctor or Poisons Information Centre (show this container or label). |

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| NAME | CAS RN | % |
|---|---|---|
| blown castor oil | 68187-84-8 | >60 |
| oleic acid | 112-80-1 | 10-30 |
| diethylene glycol monobutyl ether | 112-34-5 | 1-10 |
| Nigrosin, alcohol soluble | 11099-03-9 | 1-10 |
| NOTE: Manufacturer has supplied full ingredient information to allow CHEMWATCH assessment. | | |

## Section 4 - FIRST AID MEASURES

**SWALLOWED**

For advice, contact a Poisons Information Centre or a doctor.
· If swallowed do NOT induce vomiting.
· If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
· Observe the patient carefully.
· Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious
· Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
· Seek medical advice.

**EYE**

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.
· If pain persists or recurs seek medical attention.
· Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

**SKIN**

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.

**INHALED**

· 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.

**NOTES TO PHYSICIAN**

Treat symptomatically.

## Section 5 - FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA**

· Foam.
· Dry chemical powder.
· BCF (where regulations permit).
· Carbon dioxide.
· Water spray or fog - Large fires only.

**FIRE FIGHTING**

· Alert Fire Brigade and tell them location and nature of hazard.
· Wear breathing apparatus plus protective gloves.
· Prevent, by any means available, spillage from entering drains or water course.
· Use water delivered as a fine spray to control fire and cool adjacent area.
· Avoid spraying water onto liquid pools.
· Do not approach containers suspected to be hot.
· Cool fire exposed containers with water spray from a protected location.
· If safe to do so, remove containers from path of fire.

**FIRE/EXPLOSION HAZARD**

· Combustible.
· Slight fire hazard when exposed to heat or flame.
· Heating may cause expansion or decomposition leading to violent rupture of containers.
· On combustion, may emit toxic fumes of carbon monoxide (CO).
· May emit acrid smoke.
· Mists containing combustible materials may be explosive.
Other combustion products include:.
carbon dioxide ($CO_2$).

**FIRE INCOMPATIBILITY**

Avoid contamination with strong oxidising agents as ignition may result.

**HAZCHEM: None**

## Section 6 - ACCIDENTAL RELEASE MEASURES

### EMERGENCY PROCEDURES

### MINOR SPILLS

Slippery when spilt.
· Remove all ignition sources.
· Clean up all spills immediately.
· Avoid breathing vapours and contact with skin and eyes.
· Control personal contact by using protective equipment.
· Contain and absorb spill with sand, earth, inert material or vermiculite.
· Wipe up.
· Place in a suitable labelled container for waste disposal.

### MAJOR SPILLS

Remove all ignition sources.
Slippery when spilt.
Minor hazard.
· Clear area of personnel.
· Alert Fire Brigade and tell them location and nature of hazard.
· Control personal contact by using protective equipment as required.
· Prevent spillage from entering drains or water ways.
· Contain spill with sand, earth or vermiculite.
· Collect recoverable product into labelled containers for recycling.
· Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal.
· Wash area and prevent runoff into drains or waterways.
· If contamination of drains or waterways occurs, advise emergency services.

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

## Section 7 - HANDLING AND STORAGE

### PROCEDURE FOR HANDLING

Remove all ignition sources.
· Limit all unnecessary personal contact.
· Wear protective clothing when risk of exposure occurs.
· Use in a well-ventilated area.
· Avoid contact with incompatible materials.
· When handling, DO NOT eat, drink or smoke.
· Keep containers securely sealed when not in use.
· Avoid physical damage to containers.
· Always wash hands with soap and water after handling.
· Work clothes should be laundered separately.
· Use good occupational work practice.
· Observe manufacturer's storing and handling recommendations.
· Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

**SUITABLE CONTAINER**

· Metal can or drum
· Packaging as recommended by manufacturer.
· Check all containers are clearly labelled and free from leaks.

**STORAGE INCOMPATIBILITY**

Avoid storage with oxidisers.

**STORAGE REQUIREMENTS**

· Store in original containers.
· Keep containers securely sealed.
· No smoking, naked lights or ignition sources.
· Store in a cool, dry, well-ventilated area.
· Store away from incompatible materials and foodstuff containers.
· Protect containers against physical damage and check regularly for leaks.
· Observe manufacturer's storing and handling recommendations.

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**SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS**

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+: May be stored together

O: May be stored together with specific preventions

X: Must not be stored together

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

**EXPOSURE CONTROLS**

| Source | Material | TWA mg/m³ |
|---|---|---|
| Australia Exposure Standards | Nigrosin, alcohol soluble (Inspirable dust (not otherwise classified)) | 10 |

ENDOELTABLE

The following materials had no OELs on our records

| | |
|---|---|
| • blown castor oil: | CAS:68187-84-8 CAS: 68439-93-0 |
| • oleic acid: | CAS:112-80-1 |
| • diethylene glycol monobutyl ether: | CAS:112-34-5 |

**MATERIAL DATA**

Not available. Refer to individual constituents.

**INGREDIENT DATA**

BLOWN CASTOR OIL:
OLEIC ACID:
vegetable oil mists (except castor, cashew nut and similar irritant oils)
TLV TWA: 10 mg/m3
ES TWA: 10 mg/m3
OSHA PEL TWA: 15 mg/m3, total particulate; 5 mg/m3, respirable particulate
The common vegetable oil mists are considered "nuisance" particulates which have little adverse effect on the lung. They do not produce toxic effects or significant organic disease when exposures are kept under reasonable control. Direct instillation of vegetable oils into rabbit lungs produces acute bronchitis whilst high oral doses are laxatives.

OLEIC ACID:
Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations. Present day expectations require that nearly every individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more. On occasion animal no -observable-effect-levels (NOEL) are used to determine these limits where human results are unavailable. An additional approach, typically used by the TLV committee (USA) in determining respiratory standards for this group of chemicals, has been to assign ceiling values (TLV C) to rapidly acting irritants and to assign short-term exposure limits (TLV STELs) when the weight of evidence from irritation, bioaccumulation and other endpoints combine to warrant such a limit. In contrast the MAK Commission (Germany) uses a five -category system based on intensive odour, local irritation, and elimination half-life. However this system is being replaced to be consistent with the European Union (EU) Scientific Committee for Occupational Exposure Limits (SCOEL); this is more closely allied to that of the USA.
OSHA (USA) concluded that exposure to sensory irritants can:
· cause inflammation
· cause increased susceptibility to other irritants and infectious agents
· lead to permanent injury or dysfunction
· permit greater absorption of hazardous substances and
· acclimate the worker to the irritant warning properties of these substances thus increasing the risk of overexposure.

DIETHYLENE GLYCOL MONOBUTYL ETHER:
CEL TWA: 15.5 ppm, 100 mg/m3
In studies involving the inhalation toxicity of diethylene glycol monobutyl ether, exposure for 6 hours daily at 100 mg/m3 had no effect.
This concentration is in the range of the saturated vapour concentration.
Local damage was produced following inhalation of concentrations higher than the saturated vapour concentrations, that is, during inhalation of the aerosol (350 mg/m3). Since the only potential effects of inhalation are restricted to local discomfort (in the aerosol concentration range) the substance is classified in category I for the limitation of exposure peaks.
Teratogenicity studies have not revealed prenatal toxic effects at high oral doses and this ether is classified in pregnancy risk group C.

NIGROSIN, ALCOHOL SOLUBLE:
These "dusts" have little adverse effect on the lungs and do not produce toxic effects or organic disease. Although there is no dust which does not evoke some cellular response at sufficiently high concentrations, the cellular response caused by P.N.O.C.s has the following characteristics:
· the architecture of the air spaces remain intact,
· scar tissue (collagen) is not synthesised to any degree,
· tissue reaction is potentially reversible.
Extensive concentrations of P.N.O.C.s may:
· seriously reduce visibility,

· cause unpleasant deposits in the eyes, ears and nasal passages,
· contribute to skin or mucous membrane injury by chemical or mechanical action, per se, or by the rigorous skin cleansing procedures necessary for their removal. [ACGIH]
This limit does not apply:
· to brief exposures to higher concentrations
· nor does it apply to those substances that may cause physiological impairment at lower concentrations but for which a TLV has as yet to be determined.
This exposure standard applies to particles which
· are insoluble or poorly soluble* in water or, preferably, in aqueous lung fluid (if data is available) and
· have a low toxicity (i.e.. are not cytotoxic, genotoxic, or otherwise chemically reactive with lung tissue, and do not emit ionizing radiation, cause immune sensitization , or cause toxic effects other than by inflammation or by a mechanism of lung overload).

**PERSONAL PROTECTION**

**EYE**

· Safety glasses with side shields; or as required,
· Chemical goggles.
· Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

**HANDS/FEET**

No special equipment needed when handling small quantities.
OTHERWISE: Wear chemical protective gloves, eg. PVC.

**OTHER**

No special equipment needed when handling small quantities.
OTHERWISE:
· Overalls.
· Barrier cream.
· Eyewash unit.

**RESPIRATOR**

Respiratory protection is required when ANY "Worst Case" vapour-phase concentration is exceeded (see Computer Prediction in "Exposure Standards").

| Protection Factor (Min) | Half-Face Respirator | Full-Face Respirator |
|---|---|---|
| 10 x ES | A-P--AUS | - |
| | A-P--PAPR-AUS | - |
| 50 x ES | - | A-P--AUS |
| | - | A-P--PAPR- |

| | | |
|---|---|---|
| | | AUS |
| 100 x ES | - | A-P--2 |
| | - | A-P--<br>PAPR-2 |

^ - Full-face.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.
For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

**ENGINEERING CONTROLS**

None required when handling small quantities.
OTHERWISE:.
Use in a well-ventilated area.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**

Black thick oily liquid; does not mix with water. Characteristic odour.

**PHYSICAL PROPERTIES**

Liquid.
Does not mix with water.

Molecular Weight: Not applicable.
Melting Range (ºC): Not available
Solubility in water (g/L): Immiscible
pH (1% solution): Not applicable.
Volatile Component (%vol): Not available
Relative Vapour Density (air=1): >1
Lower Explosive Limit (%): Not available
Autoignition Temp (ºC): Not available
State: Liquid

Boiling Range (ºC): Not available
Specific Gravity (water=1): 1.000
pH (as supplied): Not applicable
Vapour Pressure (kPa): Very Low
Evaporation Rate: Slow.
Flash Point (ºC): >100
Upper Explosive Limit (%): Not available
Decomposition Temp (ºC): Not available
Viscosity: Not available

## Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

**CONDITIONS CONTRIBUTING TO INSTABILITY**

· Presence of incompatible materials.
· Product is considered stable.
· Hazardous polymerisation will not occur.

## Section 11 - TOXICOLOGICAL INFORMATION

### POTENTIAL HEALTH EFFECTS

### ACUTE HEALTH EFFECTS

### SWALLOWED

Considered an unlikely route of entry in commercial/industrial environments.
The liquid is highly discomforting.
if swallowed.
Ingestion may result in nausea, abdominal irritation, pain and vomiting.

### EYE

The liquid is.
highly.
discomforting.
to the eyes.
The material may be irritating to the eye, with prolonged contact causing inflammation.
Repeated or prolonged exposure to irritants may produce conjunctivitis.

### SKIN

The liquid is mildly discomforting.
to the skin.
and is capable of causing skin reactions which may lead to dermatitis.
if exposure is prolonged.
The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

### INHALED

Not normally a hazard due to non-volatile nature of product.

### CHRONIC HEALTH EFFECTS

Primary route of exposure is usually by.
skin contact.
As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

### TOXICITY AND IRRITATION

None assigned. Refer to individual constituents.

BLOWN CASTOR OIL:
unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

| TOXICITY | IRRITATION |
|---|---|
| | Skin (rabbit): 100 mg/24h SEVERE |
| | Eye (rabbit): 500 mg |
| data for similar material - castor oil | |
| Nil available | Skin (human): 50 mg/48h mild |

Some tumorigenic effects have been reported in animal studies [RTECS]

OLEIC ACID:
unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

| TOXICITY | IRRITATION |
|---|---|
| Oral (rat) LD50: 74000 mg/kg | Skin (human):15 mg/3d-I- Moderate |
| | Skin (rabbit) :500 mg Mild |

The material may be irritating to the eye, with prolonged contact causing inflammation.
Repeated or prolonged exposure to irritants may produce conjunctivitis.
The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

DIETHYLENE GLYCOL MONOBUTYL ETHER:
unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

| TOXICITY | IRRITATION |
|---|---|
| Oral (rat) LD50: 5660 mg/kg | Eye (rabbit) : 5 mg - SEVERE |
| Dermal (rabbit) LD50: 4120 mg/kg | Eye (rabbit) : 20 mg/24h Moderate |

The material may produce severe irritation to the eye causing pronounced inflammation.
Repeated or prolonged exposure to irritants may produce conjunctivitis.

NIGROSIN, ALCOHOL SOLUBLE:
No data of toxicological significance identified in literature search.

## Section 12 - ECOLOGICAL INFORMATION

DO NOT discharge into sewer or waterways.
Refer to data for ingredients, which follows:

OLEIC ACID:
Fish LC50 (96hr.) (mg/l): 205
BOD5: 6%
COD: 2.25 (100%
ThOD: 2.89

Substances containing unsaturated carbons are ubiquitous in indoor environments. They result from many sources (see below). Most are reactive with environmental ozone and many produce stable products which are thought to adversely affect human health.The potential for surfaces in an enclosed space to facilitate reactions should be considered.

| Source of unsaturated substances | Unsaturated substances (Reactive Emissions) | Major Stable Products produced following reaction with ozone. |
|---|---|---|
| Occupants (exhaled breath, ski oils, personal care products) | Isoprene, nitric oxide, squalene, unsaturated sterols, oleic acid and other unsaturated fatty acids, unsaturated oxidation products | Methacrolein, methyl vinyl ketone, nitrogen dioxide, acetone, 6MHQ, geranyl acetone, 4OPA, formaldehyde, nonanol, decanal, 9-oxo-nonanoic acid, azelaic acid, nonanoic acid. |
| Soft woods, wood flooring, including cypress, cedar and silver fir boards, houseplants | Isoprene, limonene, alpha-pinene, other terpenes and sesquiterpenes | Formaldehyde, 4-AMC, pinoaldehyde, pinic acid, pinonic acid, formic acid, methacrolein, methyl vinyl ketone, SOAs including ultrafine particles |
| Carpets and carpet backing | 4-Phenylcyclohexene, 4-vinylcyclohexene, styrene, 2-ethylhexyl acrylate, unsaturated fatty acids and esters | Formaldehyde, acetaldehyde, benzaldehyde, hexanal, nonanal, 2 -nonenal |

| | | |
|---|---|---|
| Linoleum and paints/polishes containing linseed oil | Linoleic acid, linolenic acid | Propanal, hexanal, nonanal, 2-heptenal, 2-nonenal, 2-decenal, 1-pentene-3 -one, propionic acid, n-butyric acid |
| Latex paint | Residual monomers | Formaldehyde |
| Certain cleaning products, polishes, waxes, air fresheners | Limonene, alpha-pinene, terpinolene, alpha-terpineol, linalool, linalyl acetate and other terpenoids, longifolene and other sesquiterpenes | Formaldehyde, acetaldehyde, glycoaldehyde, formic acid, acetic acid, hydrogen and organic peroxides, acetone, benzaldehyde, 4-hydroxy-4-methyl-5-hexen-1-al, 5 -ethenyl-dihydro-5-methyl-2(3H)-furanone, 4-AMC, SOAs including ultrafine particles |
| Natural rubber adhesive | Isoprene, terpenes | Formaldehyde, methacrolein, methyl vinyl ketone |
| Photocopier toner, printed paper, styrene polymers | Styrene | Formaldehyde, benzaldehyde |
| Environmental tobacco smoke | Styrene, acrolein, nicotine | Formaldehyde, benzaldehyde, hexanal, glyoxal, N-methylformamide, nicotinaldehyde, cotinine |
| Soiled clothing, fabrics, bedding | Squalene, unsaturated sterols, oleic acid and other saturated fatty acids | Acetone, geranyl acetone, 6MHO, 40PA, formaldehyde, nonanal, decanal, 9 -oxo-nonanoic acid, azelaic acid, nonanoic acid |
| Soiled particle filters | Unsaturated fatty acids from plant waxes, leaf litter, and other vegetative debris; soot; diesel particles | Formaldehyde, nonanal, and other aldehydes; azelaic acid; nonanoic acid; 9-oxo-nonanoic acid and other oxo-acids; compounds with mixed functional groups (=O, -OH, and -COOH) |
| Ventilation ducts and duct liners | Unsaturated fatty acids and esters, unsaturated oils, neoprene | C5 to C10 aldehydes |
| "Urban grime" | Polycyclic aromatic hydrocarbons | Oxidized polycyclic aromatic hydrocarbons |
| Perfumes, colognes, essential oils (e.g. lavender, eucalyptus, tea tree) | Limonene, alpha-pinene, linalool, linalyl acetate, terpinene-4-ol, gamma -terpinene | Formaldehyde, 4-AMC, acetone, 4-hydroxy-4-methyl-5-hexen-1-al, 5-ethenyl -dihydro-5-methyl-2(3H) furanone, SOAs including ultrafine particles |
| Overall home emissions | Limonene, alpha-pinene, styrene | Formaldehyde, 4-AMC, pinonaldehyde, acetone, pinic acid, pinonic acid, formic acid, benzaldehyde, SOAs including ultrafine particles |

Abbreviations: 4-AMC, 4-acetyl-1-methylcyclohexene; 6MHQ, 6-methyl-5-heptene-2-one, 4OPA, 4-oxopentanal, SOA, Secondary Organic Aerosols
Reference: Charles J Weschler; Environmental Helath Perspectives, Vol 114, October 2006.
Unsaturated vegetable oils are often used in paints which upon "drying" produce a polymeric network formed of the constituent fatty acids.
During the drying process, a number of compounds are produced that do not contribute to the polymer network. These include unstable hydroperoxide (ROOH) the major by-product of the reaction of oxygen with unsaturated fatty acids. The hydroperoxides quickly decompose , forming carbon dioxide and water, as well as a variety of aldehydes, acids and hydrocarbons. Many of these compounds are volatile, and in an unpigmented oil, they would be quickly lost to the environment. However, in paints, such volatiles may react with lead, zinc, copper or iron compounds in the pigment, and remain in the paint film as coordination complexes or salts. A large number of the original ester bonds in the oil molecules undergo hydrolysis releasing individual fatty acids. Some portion of the free fatty acids react with metals in the pigment, producing metal carboxylates. Together, the various non-cross-linking substances associated with the polymer network constitute the mobile phases. Unlike the molecules that are part of the network itself, they are capable

of moving and diffusing within the film, and can be removed using heat or a solvent. The mobile phase may play a role in plasticising the paint film, preventing it from becoming too brittle.
One simple technique for monitoring the early stages of the drying process is to measure weight change in an oil film over time. Initially, the film becomes heavier, as it absorbs large amounts of oxygen. Then oxygen uptake ceases, and the weight of the film declines as volatile compounds are lost to the environment.
As the oil ages, a further transition occurs. Carboxyl groups in the polymers of the stationary phase lose a hydrogen ion, becoming negatively charged, and form complexes with metal cations present in the pigment. The original network, with its nonpolar, covalent bonds is replaced by an ionomeric structure, held together by ionic interactions. At present, the structure of these ionomeric networks is not well understood.
log Kow: 7.18
log Koc: 5.24
BOD 5 if unstated: 6%
COD: 2.25
ThOD: 2.89

DIETHYLENE GLYCOL MONOBUTYL ETHER:
DO NOT discharge into sewer or waterways.
log Kow 0.15-1.0
Koc: 75
Henry's atm $m^3$ /mol: 1.52E-09
BOD 5 if unstated: 0.25
COD: 2.08
log BCF: 0.46

## Section 13 - DISPOSAL CONSIDERATIONS

· Recycle wherever possible or consult manufacturer for recycling options.
· Consult State Land Waste Authority for disposal.
· Bury or incinerate residue at an approved site.
· Recycle containers if possible, or dispose of in an authorised landfill.

## Section 14 - TRANSPORTATION INFORMATION

Labels Required:
HAZCHEM: None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN, IATA, IMDG

## Section 15 - REGULATORY INFORMATION

**POISONS SCHEDULE: None**

**REGULATIONS**

Zeus 1016 Black P.O. Ink Type B (CAS: None):
No regulations applicable

blown castor oil (CAS: 68187-84-8) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)
OECD Representative List of High Production Volume (HPV) Chemicals
blown castor oil (CAS: 68439-93-0) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)

oleic acid (CAS: 112-80-1) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)

IMO IBC Code Chapter 17: Summary of minimum requirements
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk
International Council of Chemical Associations (ICCA) - High Production Volume List
OECD Representative List of High Production Volume (HPV) Chemicals

diethylene glycol monobutyl ether (CAS: 112-34-5) is found on the following regulatory lists;
Australia Hazardous Substances
Australia High Volume Industrial Chemical List (HVICL)
Australia Inventory of Chemical Substances (AICS)
Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 5
IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances
OECD Representative List of High Production Volume (HPV) Chemicals

Nigrosin, alcohol soluble (CAS: 11099-03-9) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)

## Section 16 - OTHER INFORMATION

**INGREDIENTS WITH MULTIPLE CAS NUMBERS**

| Ingredient Name | CAS |
|---|---|
| blown castor oil | 68187-84-8, 68439-93-0 |

**EXPOSURE STANDARD FOR MIXTURES**

"Worst Case" computer-aided prediction of vapour components/concentrations:
Composite Exposure Standard for Mixture (TWA) (mg/m3): 100 mg/m³
If the breathing zone concentration of ANY of the components listed below is exceeded,
"Worst Case" considerations deem the individual to be overexposed.
Component Breathing Zone ppm Breathing Zone mg/m3 Mixture Conc: (%).

| Component | Breathing zone (ppm) | Breathing Zone (mg/m³) | Mixture Conc (%) |
|---|---|---|---|
| diethylene glycol monobutyl ether | 15.50 | 100.0000 | 10.0 |

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

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.