MATERIAL SAFETY DATA SHEET

Chemwatch Hazard Alert Code: **2**

Version No: **1.1**
Safety Data Sheet (Conforms to Regulation (EU) No 2015/830)

Issue Date: **19/12/2017**
Print Date: **19/12/2017**
S.REACH.GBR.EN

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

1.1. Product Identifier

Product name	FINELINER
Synonyms	FINELINER (BLACK,BLUE,RED,GREEN)
Other means of identification	Not Available

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

Relevant identified uses	Stationary
Uses advised against	Not Applicable

1.3. Details of the supplier of the safety data sheet (Issuing Party)

Registered company name	**Tech ink Industries**
Address	A-21 Sector -80 Noida Phase II 201305 U.P. India.
Telephone	91-120-4582666
Fax	Not Available
Website	Not Available
Email	sk.garg@luxoroffice.com

1.3.1 Issued for:

Registered company name	**Nadoli Pty Limited**
Address	P.O. Box 635 St. Ives, Sydney, NSW 2075, Australia
Telephone	+61 296209888
Fax	+61 24721-1399
Website	www.nadoli.com
Email	Sales@nadoli.com.au

1.4. Emergency telephone number

Association / Organisation	**Not Available**
Emergency telephone numbers	+91-120-4582667
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Considered a hazardous mixture according to Reg. (EC) No 1272/2008 and their amendments. Not classified as Dangerous Goods for transport purposes. . If transported only.Symbols for inks.

CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	0	
Toxicity	1	
Body Contact	2	
Reactivity	0	
Chronic	2	

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

Classification according to regulation (EC) No 1272/2008 [CLP] [1]	H319 - Eye Irritation Category 2, H341 - Germ cell mutagenicity Category 2
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from EC Directive 67/548/EEC - Annex I ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI*

2.2. Label elements

Hazard pictogram(s)	
SIGNAL WORD	**WARNING**

Hazard statement(s)

H319	Causes serious eye irritation.
H341	Suspected of causing genetic defects.

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Supplementary statement(s)

EUH208	Contains C.I. Acid Yellow 23. May produce an allergic reaction.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/ attention.
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.

Precautionary statement(s) Storage

P405	Store locked up.

Precautionary statement(s) Disposal

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

2.3. Other hazards

Ingestion may produce health damage*.

May produce discomfort of the eyes and skin*.

Limited evidence of a carcinogenic effect*.

Possible respiratory and skin sensitizer*.

May be harmful to the foetus/ embryo*.

Repeated exposure potentially causes skin dryness and cracking*.

Vapours potentially cause drowsiness and dizziness*.

nonylphenol, ethoxylated	Listed in the Europe Regulation (EC) No 1907/2006 - Annex XIV List of Substances Subject to Authorisation

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS (INK)

3.1.Substances

See 'Composition on ingredients' in Section 3.2

3.2.Mixtures

1.CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to regulation (EC) No 1272/2008 [CLP]
1.107-21-1 2.203-473-3 3.603-027-00-1 4.01-2119456816-28-XXXX	5	ethylene glycol	Acute Toxicity (Oral) Category 4; H302 [3]
1.616-45-5 2.210-483-1 3.Not Available 4.01-2119475471-37-XXXX	0.5	2-pyrrolidinone	Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage Category 1, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation); H302, H315, H318, H335 [1]
1.57-55-6 2.200-338-0 3.Not Available 4.01-2119457556-29-XXXX|01-2119493630-37-XXXX|01-2119456809-23-XXXX	20	propylene glycol	Not Applicable
1.2634-33-5 2.220-120-9 3.613-088-00-6 4.Not Available	0.0005	1,2-benzisothiazoline-3-one	Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage Category 1, Skin Sensitizer Category 1, Acute Aquatic Hazard Category 1; H302, H315, H318, H317, H400 [3]
1.52-51-7 2.200-143-0 3.603-085-00-8 4.01-2119980938-15-XXXX	0.1	2-bromo-2-nitropropan-1,3-diol	Acute Toxicity (Dermal) Category 4, Acute Toxicity (Oral) Category 4, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Skin Corrosion/Irritation Category 2, Serious Eye Damage Category 1, Acute Aquatic Hazard Category 1; H312, H302, H335, H315, H318, H400 [3]
1.26530-20-1 2.247-761-7 3.613-112-00-5 4.Not Available	0.004	2-octyl-4-isothiazolin-3-one	Acute Toxicity (Inhalation) Category 3, Acute Toxicity (Dermal) Category 3, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 1B, Skin Sensitizer Category 1, Acute Aquatic Hazard Category 1, Chronic Aquatic Hazard Category 1; H331, H311, H302, H314, H317, H410 [3]
1.7732-18-5 2.231-791-2 3.Not Available 4.Not Available	49.2355	water	Not Applicable

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1.9016-45-9 2.500-024-6 3.Not Available 4.01-2120118827-51-XXXX|01-2119946371-39-XXXX	0.01	nonylphenol, ethoxylated	Acute Toxicity (Oral) Category 4, Serious Eye Damage Category 1, Acute Aquatic Hazard Category 2, Chronic Aquatic Hazard Category 2; H302, H318, H411, AUH066 [1]
1.105-59-9 2.203-312-7 3.603-079-00-5 4.01-2119488970-24-XXXX	2.5	methyldiethanolamine	Eye Irritation Category 2; H319 [3]
1.3844-45-9 2.223-339-8 3.Not Available 4.Not Available	3.5	C.I. Acid Blue 9, disodium salt	Specific target organ toxicity - repeated exposure Category 2; H373 [1]
1.6104-58-1 2.228-058-4 3.Not Available 4.01-2120065623-57-XXXX	0.4	Coomassie Brilliant Blue G	Acute Aquatic Hazard Category 2; H401 [1]
1.3567-69-9* 2.222-657-4 3.Not Available 4.01-2120115895-51-XXXX	0.45	C.I. Acid Red 14	Not Applicable
1.1934-21-0 2.217-699-5 3.Not Available 4.01-2120116875-52-XXXX	0.9	C.I. Acid Yellow 23	Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Respiratory Sensitizer Category 1, Skin Sensitizer Category 1, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation); H315, H319, H334, H317, H335 [1]
1.2783-94-0 2.220-491-7 3.Not Available 4.01-2119943707-29-XXXX	3	C.I. Food Yellow 3	Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation); H315, H319, H335 [1]
1.6505-30-2 2.229-390-2 3.Not Available 4.Not Available	0.2	C.I. Acid Blue 104	Not Applicable
1.4129-84-4 2.223-942-6 3.Not Available 4.Not Available	2	C.I. Acid Violet 17	Acute Aquatic Hazard Category 2, Chronic Aquatic Hazard Category 2; H411 [1]
1.2611-82-7 2.216-760-3 3.Not Available 4.01-2120033342-71-XXXX	6	C.I. Acid Red 88	Eye Irritation Category 2A, Germ cell mutagenicity Category 2; H319, H341 [1]
1.3520-42-1 2.222-529-8 3.Not Available 4.Not Available	1.6	C.I. Acid Red 52, sodium salt	Not Applicable
1.17372-87-1 2.241-409-6 3.Not Available 4.01-2120138551-62-XXXX	2.8	eosin yellowish	Eye Irritation Category 2A; H319 [1]
1.18472-87-2 2.242-355-6 3.Not Available 4.01-2120115907-54-XXXX	0.5	eosin bluish	Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Acute Aquatic Hazard Category 3; H315, H319, H402 [1]
1.8004-92-0 2.284-392-0 3.Not Available 4.01-2120115890-61-XXXX	1.3	C.I. Acid Yellow 3	Acute Toxicity (Oral) Category 4; H302 [1]
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from EC Directive 67/548/EEC - Annex I ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI 4. Classification drawn from C&L*		

SECTION 4 FIRST AID MEASURES

4.1. Description of first aid measures

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, aerosols or combustion products are inhaled remove from contaminated area. ▸ Other measures are usually unnecessary.
Ingestion	▸ 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.

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	▸ 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.

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.
To treat poisoning by the higher aliphatic alcohols (up to C7):

- Gastric lavage with copious amounts of water.
- It may be beneficial to instill 60 ml of mineral oil into the stomach.
- Oxygen and artificial respiration as needed.
- Electrolyte balance: it may be useful to start 500 ml. M/6 sodium bicarbonate intravenously but maintain a cautious and conservative attitude toward electrolyte replacement unless shock or severe acidosis threatens.
- To protect the liver, maintain carbohydrate intake by intravenous infusions of glucose.
- Haemodialysis if coma is deep and persistent. [GOSSELIN, SMITH HODGE: Clinical Toxicology of Commercial Products, Ed 5)

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- Monitor and treat, where necessary, for shock.
- Monitor and treat, where necessary, for pulmonary oedema.
- Anticipate and treat, where necessary, for seizures.
- **DO NOT** use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
- Give activated charcoal.

ADVANCED TREATMENT

- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- Positive-pressure ventilation using a bag-valve mask might be of use.
- Monitor and treat, where necessary, for arrhythmias.
- Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- If the patient is hypoglycaemic (decreased or loss of consciousness, tachycardia, pallor, dilated pupils, diaphoresis and/or dextrose strip or glucometer readings below 50 mg), give 50% dextrose.
- Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- Drug therapy should be considered for pulmonary oedema.
- Treat seizures with diazepam.
- Proparacaine hydrochloride should be used to assist eye irrigation.

EMERGENCY DEPARTMENT

- Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and electrocardiograph.
- Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- Acidosis may respond to hyperventilation and bicarbonate therapy.
- Haemodialysis might be considered in patients with severe intoxication.
- Consult a toxicologist as necessary. BRONSTEIN, A.C. and CURRANCE, P.L. EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

For C8 alcohols and above.
Symptomatic and supportive therapy is advised in managing patients.

- Polyethylene glycols are generally poorly absorbed orally and are mostly unchanged by the kidney.
- Dermal absorption can occur across damaged skin (e.g. through burns) leading to increased osmolality, anion gap metabolic acidosis, elevated calcium, low ionised calcium, CNS depression and renal failure.

Treatment consists of supportive care.
[Ellenhorn and Barceloux: Medical Toxicology]

SECTION 5 FIREFIGHTING MEASURES

5.1. Extinguishing media

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.
Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances.
In such an event consider:

- foam.

5.2. Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.

5.3. Advice for firefighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear breathing apparatus plus protective gloves in the event of a fire. ▸ Prevent, by any means available, spillage from entering drains or water courses. ▸ Use fire fighting procedures suitable for surrounding area. ▸
Fire/Explosion Hazard	▸ The material is not readily combustible under normal conditions. However, it will break down under fire conditions and the organic component may burn. ▸ Not considered to be a significant fire risk. ▸ Heat may cause expansion or decomposition with violent rupture of containers. ▸

	Decomposes on heating and produces toxic fumes of: , carbon dioxide (CO2) , nitrogen oxides (NOx) , sulfur oxides (SOx) , other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.

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	▸ Clean up all spills immediately. ▸ Avoid breathing vapours and contact with skin and eyes. ▸ Control personal contact with the substance, by using protective equipment. ▸ Contain and absorb spill with sand, earth, inert material or vermiculite.
Major Spills	▸ Absorb or contain isothiazolinone liquid spills with sand, earth, inert material or vermiculite. ▸ The absorbent (and surface soil to a depth sufficient to remove all of the biocide) should be shovelled into a drum and treated with an 11% solution of sodium metabisulfite (Na2S2O5) or sodium bisulfite (NaHSO3), or 12% sodium sulfite (Na2SO3) and 8% hydrochloric ▸ acid (HCl). Glutathione has also been used to inactivate the isothiazolinones. ▸ Use 20 volumes of decontaminating solution for each volume of biocide, and let containers stand for at least 30 minutes to deactivate microbicide before disposal.

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	▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area. ▸ Prevent concentration in hollows and sumps. ▸ **DO NOT** allow clothing wet with material to stay in contact with skin
Fire and explosion protection	See section 5
Other information	Consider storage under inert gas.

7.2. Conditions for safe storage, including any incompatibilities

Suitable container	▸ Polyethylene or polypropylene container. ▸ Packing as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	▸ 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. Alcohols ▸ are incompatible with strong acids, acid chlorides, acid anhydrides, oxidising and reducing agents. ▸ reacts, possibly violently, with alkaline metals and alkaline earth metals to produce hydrogen ▸ react with strong acids, strong caustics, aliphatic amines, isocyanates, acetaldehyde, benzoyl peroxide, chromic acid, chromium oxide, dialkylzincs, dichlorine oxide, ethylene oxide, hypochlorous acid, isopropyl chlorocarbonate, lithium tetrahydroaluminate, nitrogen dioxide, pentafluoroguanidine, phosphorus halides, phosphorus pentasulfide, tangerine oil, triethylaluminium, triisobutylaluminium should not be heated above 49 deg. C. when in contact with aluminium equipment Formaldehyde: ▸ is a strong reducing agent ▸ may polymerise in air unless properly inhibited (usually with methanol up to 15%) and stored at controlled temperatures ▸ will polymerize with active organic material such as phenol ▸ reacts violently with strong oxidisers, hydrogen peroxide, potassium permanganate, acrylonitrile, caustics (sodium hydroxide, yielding formic acid and flammable hydrogen), magnesium carbonate, nitromethane, nitrogen oxides (especially a elevated temperatures), peroxyformic acid ▸ is incompatible with strong acids (hydrochloric acid forms carcinogenic bis(chloromethyl)ether*), amines, ammonia, aniline, bisulfides, gelatin, iodine, magnesite, phenol, some monomers, tannins, salts of copper, iron, silver. acid catalysis can produce impurities: methylal, methyl formate Aqueous solutions of formaldehyde: ▸ slowly oxidise in air to produce formic acid ▸ attack carbon steel Concentrated solutions containing formaldehyde are: ▸ unstable, both oxidising slowly to form formic acid and polymerising; in dilute aqueous solutions formaldehyde appears as monomeric hydrate (methylene glycol) - the more concentrated the solution the more polyoxymethylene glycol occurs as oligomers and polymers (methanol and amine-containing compounds inhibit polymer formation) ▸ readily subject to polymerisation, at room temperature, in the presence of air and moisture, to form paraformaldehyde (8-100 units of formaldehyde), a solid mixture of linear polyoxymethylene glycols containing 90-99% formaldehyde; a cyclic trimer, trioxane (CH2O3), may also form

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	Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents *The empirical equation may be used to determine the concentration of bis(chloromethyl)ether (BCME) formed by reaction with HCl: log(BCME)ppb = -2.25 + 0.67• log(HCHO) ppm + 0.77• log(HCl)ppm Assume values for formaldehyde, in air, of 1 ppm and for HCl of 5 ppm, resulting BCME concentration, in air, would be 0.02 ppb.

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
European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (English)	ethylene glycol	Ethylene glycol	52 mg/m3 / 20 ppm	104 mg/m3 / 40 ppm	Not Available	Skin
UK Workplace Exposure Limits (WELs)	ethylene glycol	Ethane-1,2-diol particulate	10 mg/m3	10 mg/m3	Not Available	Sk
UK Workplace Exposure Limits (WELs)	ethylene glycol	Ethane-1,2-diol vapour	52 mg/m3 / 20 ppm	4 mg/m3 / 40 ppm	Not Available	Sk
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)	ethylene glycol	Ethylene glycol	52 mg/m3 / 20 ppm	104 mg/m3 / 40 ppm	Not Available	Skin
UK Workplace Exposure Limits (WELs)	propylene glycol	Propane-1,2-diol total vapour and particulates	474 mg/m3 / 150 ppm	Not Available	Not Available	Not Available
UK Workplace Exposure Limits (WELs)	propylene glycol	Propane-1,2-diol particulates	10 mg/m3	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
ethylene glycol	Ethylene glycol	30 ppm	40 ppm	60 ppm
2-pyrrolidinone	Pyrrolidinone, 2-	6.9 ppm	76 ppm	460 ppm
propylene glycol	Polypropylene glycols	30 mg/m3	330 mg/m3	2,000 mg/m3
propylene glycol	Propylene glycol; (1,2-Propanediol)	30 mg/m3	1,300 mg/m3	7,900 mg/m3
nonylphenol, ethoxylated	Glycols, polyethylene, mono(p-nonylphenyl) ether	4.5 mg/m3	49 mg/m3	300 mg/m3
nonylphenol, ethoxylated	Ethoxylated nonylphenol; (Nonyl phenyl polyethylene glycol ether)	1 mg/m3	11 mg/m3	260 mg/m3

Ingredient	Original IDLH	Revised IDLH
ethylene glycol	Not Available	Not Available
2-pyrrolidinone	Not Available	Not Available
propylene glycol	Not Available	Not Available
1,2-benzisothiazoline-3-one	Not Available	Not Available
2-bromo-2-nitropropan-1,3-diol	Not Available	Not Available
2-octyl-4-isothiazolin-3-one	Not Available	Not Available
water	Not Available	Not Available
nonylphenol, ethoxylated	Not Available	Not Available
methyldiethanolamine	Not Available	Not Available
C.I. Acid Blue 9, disodium salt	Not Available	Not Available
Coomassie Brilliant Blue G	Not Available	Not Available
C.I. Acid Red 14	Not Available	Not Available
C.I. Acid Yellow 23	Not Available	Not Available
C.I. Food Yellow 3	Not Available	Not Available
C.I. Acid Blue 104	Not Available	Not Available
C.I. Acid Violet 17	Not Available	Not Available
C.I. Acid Red 88	Not Available	Not Available
C.I. Acid Red 52, sodium salt	Not Available	Not Available
eosin yellowish	Not Available	Not Available
eosin bluish	Not Available	Not Available
C.I. Acid Yellow 3	Not Available	Not Available

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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. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. 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. ‣ 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 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. ‣ Wear safety footwear or safety gumboots, e.g. Rubber **NOTE:** ‣ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ‣ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. 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. 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. Personal hygiene is a key element of effective hand care. ‣ Butyl rubber gloves ‣ Nitrile rubber gloves
Body protection	See Other protection below
Other protection	‣ Overalls. ‣ P.V.C. apron. ‣ Barrier cream.
Thermal hazards	Not Available

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:
"Forsberg Clothing Performance Index".
The effect(s) of the following substance(s) are taken into account in the ***computer-generated*** selection:
Micro Point / Fine Writer [MTI]Inks [20 COLORS]

Material	CPI
BUTYL	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
NITRILE+PVC	C
PE/EVAL/PE	C
PVA	C
PVC	C
TEFLON	C
VITON	C

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory protection

Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate. Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	A-AUS / Class 1	-
up to 50	1000	-	A-AUS / Class 1
up to 50	5000	Airline *	-
up to 100	5000	-	A-2
up to 100	10000	-	A-3
100+		-	Airline**

* - Continuous Flow
** - Continuous-flow or positive pressure demand.
A(All classes) = Organic vapours, B AUS or B1 = Acid gases, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 deg C)

8.2.3. Environmental exposure controls

See section 12

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES (INK)

Continued...

9.1. Information on basic physical and chemical properties

Appearance	Not Available

Physical state	Liquid	**Relative density (Water = 1)**	1.030-1.080
Odour	Slight	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	5.0-8.0	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	2.20-3.30
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 Available	**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)	Miscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

9.2. Other information

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. ▸ Product is considered stable. ▸ 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 either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Aliphatic alcohols with more than 3-carbons cause headache, dizziness, drowsiness, muscle weakness and delirium, central depression, coma, seizures and behavioural changes. Secondary respiratory depression and failure, as well as low blood pressure and irregular heart rhythms, may follow.
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual. 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. 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. 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. If swallowed, the toxic effects of glycols (dihydric alcohols) are similar to those of alcohol, with depression of the central nervous system, nausea, vomiting, and degenerative changes in the liver and kidney. Overexposure to non-ring alcohols causes nervous system symptoms. These include headache, muscle weakness and inco-ordination, giddiness, confusion, delirium and coma. Taken by mouth, isothiazolinones have moderate to high toxicity. The major signs of toxicity are severe stomach irritation, lethargy, and inco-ordination.
Skin Contact	Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons. A 0.5% solution of 1,2-benzisothiazoline-3-one (BIT) is irritating to the skin. Even 0.05% can cause allergy, according to patch tests, with reddening of the skin. Provocation tests with BIT showed the material to be sensitizing. Of 20 metal workers with skin inflammation, four were shown to have been sensitized to BIT in cutting oils. Solutions of isothiazolinones may be irritating or even damaging to the skin, depending on concentration. A concentration of over 0.1% can irritate, and over 0.5% can cause severe irritation. A single prolonged exposure is not likely to result in the material causing harm. However, when applied in large quantities to damaged skin as a topical preparation or by contact with clothing accidentally contaminated by the material, there may be the potential to absorb the material in harmful amounts. Most liquid alcohols appear to act as primary skin irritants in humans. Significant percutaneous absorption occurs in rabbits but not apparently in man. Open cuts, abraded or irritated skin should not be exposed to this material 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

Continued...

	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. Solutions containing isothiazolinones may damage the mucous membranes and cornea. Animal testing showed very low concentrations (under 0.1%) did not cause irritation, while higher levels (3-5.5%) produced severe irritation and damage to the eye.
Chronic	Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Strong evidence exists that this substance may cause irreversible mutations (though not lethal) even following a single exposure. Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Laboratory (in vitro) and animal studies show, exposure to the material may result in a possible risk of irreversible effects, with the possibility of producing mutation. In animal testing, 1,2-benzisothiazoline-3-one (BIT) did not cause toxicity to the embryo or birth defects. The material does not cause mutations or an increase in cancer. Mild anaemia, reduction in food intake and changes in organ weights did occur in a long-term study. The isothiazolinones are known contact sensitisers. Sensitisation is more likely with the chlorinated species as opposed to the non-chlorinated species. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. Propylene glycol is thought to be sensitizing following the regular use of topical creams by eczema patients. Testing in humans showed that 16% of exposed individuals, irritation occurred, with 12.5% showing toxic or allergic reactions. The reaction responses reached their maximum on the second day or later. Reactions were seasonal in nature, with a maximum in winter.

	TOXICITY	IRRITATION
Micro Point / Fine Writer [MTI]Inks [20 COLORS]	Not Available	Not Available
ethylene glycol	Dermal (rabbit) LD50: 9530 mg/kg[2] Inhalation (rat) LC50: 100.2 mg/l/8hr[2] Oral (rat) LD50: 4700 mg/kg[2]	Eye (rabbit): 100 mg/1h - mild Eye (rabbit): 12 mg/m3/3D Eye (rabbit): 1440mg/6h-moderate Eye (rabbit): 500 mg/24h - mild Skin (rabbit): 555 mg(open)-mild
2-pyrrolidinone	Dermal (rabbit) LD50: >2000 mg/kg[1] Oral (rat) LD50: 328 mg/kg[2]	Not Available
propylene glycol	Dermal (rabbit) LD50: 11890 mg/kg[2] Oral (rat) LD50: 20000 mg/kg[2]	Eye (rabbit): 100 mg - mild Eye (rabbit): 500 mg/24h - mild Skin(human):104 mg/3d Intermit Mod Skin(human):500 mg/7days mild
1,2-benzisothiazoline-3-one	Oral (rat) LD50: 670 mg/kg[2]	Not Available
2-bromo-2-nitropropan-1,3-diol	dermal (rat) LD50: 64 mg/kg[2] Inhalation (rat) LC50: 0.8 mg/l/4H[2]	Eye (rabbit): 5 mg Skin (human): 10 mg moderate Skin (rabbit): 500 mg/24h mild Skin (rabbit): 80 mg moderate
2-octyl-4-isothiazolin-3-one	Dermal (rabbit) LD50: 690 mg/kg[2] Oral (rat) LD50: 550 mg/kg[2]	Eye (rabbit): 0.5% non irritant Eye (rabbit): 45% conc CORROSIVE Eye (rabbit): 5% conc moderate Eye(rabbit):100 mg SEVERE Skin (rabbit): 45% conc SEVERE Skin (rabbit): 500 mg/24 hours
water	Not Available	Not Available
nonylphenol, ethoxylated	Oral (rat) LD50: 1310 mg/kg[2]	Eye (rabbit): 5 mg SEVERE Skin (human): 15 mg/3D mild Skin (rabbit): 500 mg mild

Continued...

	TOXICITY	IRRITATION
methyldiethanolamine	Dermal (rabbit) LD50: 10244 mg/kg[1] Oral (rat) LD50: 1945 mg/kg[1]	Eye (rabbit) 20 mg open - irrit. Skin (rabbit) 10 mg/24H open-mild Skin (rabbit) 502 mg open - mild
C.I. Acid Blue 9, disodium salt	Not Available	Not Available
Coomassie Brilliant Blue G	Not Available	Not Available
C.I. Acid Red 14	Not Available	Not Available
C.I. Acid Yellow 23	Oral (rat) LD50: >2000 mg/kg[2]	Not Available
C.I. Food Yellow 3	Oral (rat) LD50: >10,000 mg/kg[2]	Not Available
C.I. Acid Blue 104	Oral (rat) LD50: >5000 mg/kg[2]	Eye (rabbit): non-irritating * Skin (rabbit): non-irritating *
C.I. Acid Violet 17	Oral (rat) LD50: >2000 mg/kg[2]	Not Available
C.I. Acid Red 88	Oral (rat) LD50: >8000 mg/kg[2]	Not Available
C.I. Acid Red 52, sodium salt	Oral (mouse) LD50: 10300 mg/kg[2]	Not Available
eosin yellowish	Oral (rat) LD50: 4700 mg/kg[2]	Eye (rabbit): moderate* Skin (rabbit): non-irritating*
eosin bluish	Oral (rat) LD50: 8400 mg/kg[2]	Not Available
C.I. Acid Yellow 3	Oral (rat) LD50: 2000 mg/kg[2]	Not Available
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*	

2-PYRROLIDINONE	For 2-pyrrolidone (synonym 2-pyrrolidinone or 2-P): 2-P does not seem to cause adverse effects at low doses. Testing shows that it does not cause genetic or reproductive toxicity. It causes developmental toxicity only at levels which are toxic to the mother. Coma, dyspnea recorded.
1,2-BENZISOTHIAZOLINE-3-ONE	**Acute toxicity** data show that 1,2-benzisothiazoline-3-one (BIT) is moderately toxic by the oral and dermal routes but that this chemical is a severe eye irritant. Irritation to the skin from acute data show only mild skin irritation , but repeated dermal application indicated a more significant skin irritation response. The neurotoxicity observed in the rat acute oral toxicity study (piloerection and upward curvature of the spine at 300 mg/kg and above; decreased activity, prostration, decreased abdominal muscle tone, reduced righting reflex, and decreased rate and depth of breathing at 900 mg/kg) and the acute dermal toxicity study (upward curvature of the spine was observed in increased incidence, but this was absent after day 5 post-dose at a dose of 2000 mg/kg) were felt to be at exposures in excess of those expected from the use pattern of this pesticide and that such effects would not be observed at estimated exposure doses. **Subchronic oral toxicity** studies showed systemic effects after repeated oral administration including decreased body weight, increased incidence of forestomach hyperplasia, and non-glandular stomach lesions in rats.
2-BROMO-2-NITROPROPAN-1,3-DIOL	Formaldehyde generators (releasers) are often used as preservatives. The maximum authorised concentration of free formaldehyde is 0.2% and must be labelled with the warning sign "contains formaldehyde" where the concentration exceeds 0.05%.The use of formaldehyde-releasing preservatives ensures that the level of free formaldehyde in the products is always low but sufficient to inhibit microbial growth - it disrupts metabolism to cause death of the organism. However there is a concern that formaldehyde generators can produce amines capable of causing cancers (nitrosamines) when used in formulations containing amines. Chemical with the aliphatic nitro group (-C-NO2) have been added to a list of DNA-reactive subgroups recognised by the National Toxicological Program (NTP, U.S. Dept Health and Human Services) for possible carcinogenic activity.

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	Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products.
NONYLPHENOL, ETHOXYLATED	Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitisers. The oxidization products also cause irritation. Humans have regular contact with alcohol ethoxylates through a variety of industrial and consumer products such as soaps, detergents and other cleaning products. Exposure to these chemicals can occur through swallowing, inhalation, or contact with the skin or eyes. Studies of acute toxicity show that relatively high volumes would have to occur to produce any toxic response. No death due to poisoning with alcohol ethoxylates has ever been reported. Both laboratory and animal testing has shown that there is no evidence for alcohol ethoxylates (AEs) causing genetic damage, mutations or cancer. No adverse reproductive or developmental effects were observed. Tri-ethylene glycol ethers undergo enzymatic oxidation to toxic alkoxy acids. They may irritate the skin and the eyes. At high oral doses, they may cause depressed reflexes, flaccid muscle tone, breathing difficulty and coma. Death may result in experimental animal. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
C.I. ACID BLUE 9, DISODIUM SALT	The substance is classified by IARC as Group 3: **NOT** classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.
C.I. ACID YELLOW 23	Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms. Allergy causing activity is due to interactions with proteins. Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema. Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure. Suspected allergen *[Hawleys]
C.I. FOOD YELLOW 3	Acceptable daily intake as food additive = 2.5 mg/kg FAO/WHO 1982
C.I. ACID BLUE 104	for 40% aqueous solution; for similar product: * Bayer
C.I. ACID RED 88	No data of toxicological significance identified in literature search.
C.I. ACID RED 52, SODIUM SALT	Hamster cell mutagen
EOSIN YELLOWISH	Bacterial cell mutagen Equivocal tumorigen by RTECS criteria
EOSIN BLUISH	Human lung cell mutagen in vivo Reproductive effector in rats
C.I. ACID YELLOW 3	Studies done on animals showed that quinoline and its metabolites are almost completely excreted via the urine but caused fatty liver and bile duct proliferation in some cases. There is no evidence to suggest that quinoline causes cancer in humans, but it is reported to cause liver cancer in rats and skin cancer in mice. As such, it is predicted to be a cancer causing agent. It is equally said to cause no toxic effect on human and animal gene but some of its metabolites may cause abnormal gene alterations (4-methyl isomer and 2-methyl isomer).
2-PYRROLIDINONE & 2-BROMO-2-NITROPROPAN-1,3-DIOL & METHYLDIETHANOLAMINE & C.I. FOOD YELLOW 3	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.
1,2-BENZISOTHIAZOLINE-3-ONE & C.I. ACID YELLOW 23	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.
2-BROMO-2-NITROPROPAN-1,3-DIOL & NONYLPHENOL, ETHOXYLATED & METHYLDIETHANOLAMINE & EOSIN YELLOWISH	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.
WATER & COOMASSIE BRILLIANT BLUE G	No significant acute toxicological data identified in literature search.
EOSIN YELLOWISH & EOSIN BLUISH	Topical, oral, and intravenous use of fluorescein usually causes nausea, diarrhoea, hives, acute hypotension, hyper allergic reaction, heart attack and even sudden death. As such, health care staff should use prophylactic antihistamines and always prepare for possible emergency resuscitation to reduce risk and prevent death from emergencies. Adverse reaction is 25 times more common in those with prior adverse reaction and this may be elicited with a pin prick test. Reaction to lip stick containing eosin (which is derived from fluorescein) has caused skin inflammation.

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 available to make classification*
⊘ *– Data Not Available to make classification*

SECTION 12 ECOLOGICAL INFORMATION

12.1. Toxicity

Micro Point / Fine Writer [MTI]Inks [20 COLORS]

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available

ethylene glycol

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	8050mg/L	4

Continued...

	EC50	48	Crustacea	5046.29mg/L	5
	EC50	96	Algae or other aquatic plants	6500-13000mg/L	1
	NOEC	552	Crustacea	>=1000mg/L	2

2-pyrrolidinone

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
EC50	48	Crustacea	=13.21mg/L	1
EC50	96	Algae or other aquatic plants	=84mg/L	1
NOEC	168	Algae or other aquatic plants	=100mg/L	1

propylene glycol

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	710mg/L	4
EC50	48	Crustacea	>1000mg/L	4
EC50	96	Algae or other aquatic plants	19000mg/L	2
NOEC	168	Fish	98mg/L	4

1,2-benzisothiazoline-3-one

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	1.6mg/L	4
EC50	48	Crustacea	0.062mg/L	4

2-bromo-2-nitropropan-1,3-diol

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	20mg/L	4
EC50	48	Crustacea	0.78mg/L	4
NOEC	504	Crustacea	0.27mg/L	2

2-octyl-4-isothiazolin-3-one

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	0.047mg/L	4
EC50	48	Crustacea	0.18mg/L	4
BCF	1608	Fish	0.05mg/L	4
NOEC	48	Crustacea	<=0.08mg/L	4

water

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available

nonylphenol, ethoxylated

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	1.3mg/L	4
EC50	48	Crustacea	12.2mg/L	4
EC50	96	Algae or other aquatic plants	12.0mg/L	4
NOEC	2400	Fish	0.035mg/L	4

methyldiethanolamine

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	320mg/L	1
EC50	48	Crustacea	=230mg/L	1
EC50	96	Algae or other aquatic plants	=20mg/L	1
NOEC	96	Fish	=460mg/L	1

C.I. Acid Blue 9, disodium salt

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	>96mg/L	4
EC50	48	Crustacea	>97mg/L	4

Coomassie Brilliant Blue G

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
EC50	48	Crustacea	1.48mg/L	2
NOEC	168	Algae or other aquatic plants	0.193mg/L	2

C.I. Acid Red 14

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available

C.I. Acid Yellow 23

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available

C.I. Food Yellow 3

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	165mg/L	2

Continued...

	EC50	48	Crustacea	486.5mg/L	2
	EC50	96	Algae or other aquatic plants	44524mg/L	2

C.I. Acid Blue 104

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available

C.I. Acid Violet 17

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available

C.I. Acid Red 88

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available

C.I. Acid Red 52, sodium salt

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available

eosin yellowish

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available

eosin bluish

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	97.7mg/L	4

C.I. Acid Yellow 3

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - 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*

Harmful to aquatic organisms.
Propylene glycol is known to exert high levels of biochemical oxygen demand (BOD) during degradation in surface waters. This process can adversely affect aquatic life by consuming oxygen needed by aquatic organisms for survival. Large quantities of dissolved oxygen (DO) in the water column are consumed when microbial populations decompose propylene glycol. Sufficient dissolved oxygen levels in surface waters are critical for the survival of fish, macro-invertebrates, and other aquatic organisms.
For Acid Dyes: Environmental Fate: Many dyes are visible in water at very low concentrations. Textile processing waste waters are therefore usually highly colored and discharge in open waters presents an aesthetic problem. As dyes are designed to be chemically and light stable, they are highly persistent in natural environments. Acid dyes are not expected to be degraded by oxygen dependent microorganisms and their release may present an ecotoxic hazard.
Environmental Fate: Isothiazolinones are antimicrobials used to control bacteria, fungi, and for wood preservation and antifouling agents. They are frequently used in personal care products such as shampoos and other hair care products, as well as certain paint formulations. The most common isothiazolinone combinations are 5-chloro-2-methyl-4-isothiazolin-3-one, (CMI), and 2-methyl-4-isothiazolin-3-one, (MI).
Aquatic Fate: 5-chloro-2-methyl-4-isothiazolin-3-one,(CMI), and 2-methyl-4-isothiazolin-3-one, (MI), undergo primary biological breakdown with half-lives of less than 24 hours in both oxygenated and low oxygen sediments with >55% breakdown occurring within 29 days.
For 2-bromo-2-nitropropan-1,3-diol (Bronopol)
Environmental fate:
One hydrolysis study indicates that bronopol appears to hydrolyse slowly at acidic or neutral pH conditions. Bronopol decomposes in aqueous solution on exposure to light. Increases in temperature increase decomposition.
Ecotoxicity:
Bird LD50: mallard duck 510 mg/kg
Bird dietary LC50: quail 4488 ppm
Daphnia magna EC50 (48 h): 1.4 mg/l
Fish LC50: trout 41.5 ppm
DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
ethylene glycol	LOW (Half-life = 24 days)	LOW (Half-life = 3.46 days)
2-pyrrolidinone	LOW	LOW
propylene glycol	LOW	LOW
2-bromo-2-nitropropan-1,3-diol	LOW	LOW
2-octyl-4-isothiazolin-3-one	HIGH	HIGH
water	LOW	LOW
nonylphenol, ethoxylated	LOW	LOW
methyldiethanolamine	LOW	LOW
Coomassie Brilliant Blue G	HIGH	HIGH
C.I. Acid Red 14	HIGH	HIGH
C.I. Acid Yellow 23	HIGH	HIGH
C.I. Acid Violet 17	HIGH	HIGH
C.I. Acid Red 88	HIGH	HIGH

Continued...

eosin yellowish	HIGH	HIGH

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
ethylene glycol	LOW (BCF = 200)
2-pyrrolidinone	LOW (LogKOW = -0.85)
propylene glycol	LOW (BCF = 1)
2-bromo-2-nitropropan-1,3-diol	LOW (LogKOW = -0.6408)
2-octyl-4-isothiazolin-3-one	LOW (LogKOW = 2.561)
water	LOW (LogKOW = -1.38)
nonylphenol, ethoxylated	LOW (BCF = 16)
methyldiethanolamine	LOW (LogKOW = -1.5024)
Coomassie Brilliant Blue G	HIGH (LogKOW = 5.9582)
C.I. Acid Red 14	LOW (LogKOW = 2.5775)
C.I. Acid Yellow 23	LOW (BCF = 3)
C.I. Acid Violet 17	MEDIUM (LogKOW = 4.1531)
C.I. Acid Red 88	HIGH (LogKOW = 4.8932) LOW (LogKOW = 1.6301)
eosin yellowish	

12.4. Mobility in soil

Ingredient	Mobility
ethylene glycol	HIGH (KOC = 1)
2-pyrrolidinone	LOW (KOC = 16.86)
propylene glycol	HIGH (KOC = 1)
2-bromo-2-nitropropan-1,3-diol	HIGH (KOC = 1)
2-octyl-4-isothiazolin-3-one	LOW (KOC = 2120)
water	LOW (KOC = 14.3)
nonylphenol, ethoxylated	LOW (KOC = 940)
methyldiethanolamine	HIGH (KOC = 1)
Coomassie Brilliant Blue G	LOW (KOC = 10000000000)
C.I. Acid Red 14	LOW (KOC = 220300)
C.I. Acid Yellow 23	LOW (KOC = 79.38)
C.I. Acid Violet 17	LOW (KOC = 10000000000)
C.I. Acid Red 88	LOW (KOC = 1572000)
eosin yellowish	LOW (KOC = 18860)

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. Return to supplier for reuse/ recycling if possible. Otherwise: 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. ▸ Where possible retain label warnings and SDS and observe all notices pertaining to the product. 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. A Hierarchy of Controls seems to be common - the user should investigate: Reduction Reuse ▸ Recycling ▸ Disposal (if all else fails) This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. ▸ **DO NOT** allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. ▸ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▸ Where in doubt contact the responsible authority. ▸ ▸

	Recycle wherever possible. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or incineration in a licensed apparatus (after admixture with suitable combustible material). Decontaminate empty containers.
Waste treatment options	Not Available
Sewage disposal options	Not Available

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

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

14.1.UN number	Not Applicable
14.2.UN proper shipping name	Not Applicable
14.3. Transport hazard class(es)	Class: Not Applicable Subrisk: Not Applicable
14.4.Packing group	Not Applicable
14.5.Environmental hazard	Not Applicable
14.6. Special precautions for user	Hazard identification (Kemler): Not Applicable Classification code: Not Applicable Hazard Label: Not Applicable Special provisions: Not Applicable Limited quantity: Not Applicable

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

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

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

14.1. UN number	Not Applicable
14.2. UN proper shipping name	Not Applicable

Continued...

14.3. Transport hazard class(es)	Not Applicable	Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Classification code	Not Applicable
	Special provisions	Not Applicable
	Limited quantity	Not Applicable
	Equipment required	Not Applicable
	Fire cones number	Not Applicable

14.7. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

ETHYLENE GLYCOL(107-21-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)
European Customs Inventory of Chemical Substances ECICS (English)
European Trade Union Confederation (ETUC) Priority List for REACH Authorisation
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)
European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI
UK Workplace Exposure Limits (WELs)

2-PYRROLIDINONE(616-45-5) 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)

PROPYLENE GLYCOL(57-55-6) 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)
UK Workplace Exposure Limits (WELs)

1,2-BENZISOTHIAZOLINE-3-ONE(2634-33-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

European Customs Inventory of Chemical Substances ECICS (English)
European Trade Union Confederation (ETUC) Priority List for REACH Authorisation
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)
European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI

2-BROMO-2-NITROPROPAN-1,3-DIOL(52-51-7) 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) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI

2-OCTYL-4-ISOTHIAZOLIN-3-ONE(26530-20-1) 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) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI

WATER(7732-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU REACH Regulation (EC) No 1907/2006 - Annex IV - Exemptions from the Obligation to Register in Accordance with Article 2(7)(a) (English)
European Customs Inventory of Chemical Substances ECICS (English)
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

NONYLPHENOL, ETHOXYLATED(9016-45-9) 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
EU REACH Regulation (EC) No 1907/2006 - Proposals to identify Substances of Very High Concern: Annex XV reports for commenting by Interested Parties
Europe AeroSpace and Defence Industries Association of Europe (ASD) REACH Implementation Working Group Priority Declarable Substances List (PDSL)
Europe Regulation (EC) No 1907/2006 - Annex XIV List of Substances Subject to Authorisation European Customs Inventory of Chemical Substances ECICS (English)
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

METHYLDIETHANOLAMINE(105-59-9) 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) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI

C.I. ACID BLUE 9, DISODIUM SALT(3844-45-9) 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)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

COOMASSIE BRILLIANT BLUE G(6104-58-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Continued...

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

C.I. ACID RED 14(3567-69-9*) 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)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

C.I. ACID YELLOW 23(1934-21-0) 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)

C.I. FOOD YELLOW 3(2783-94-0) 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)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

C.I. ACID BLUE 104(6505-30-2) 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)

C.I. ACID VIOLET 17(4129-84-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

C.I. ACID RED 88(2611-82-7) 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)

C.I. ACID RED 52, SODIUM SALT(3520-42-1) 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)

EOSIN YELLOWISH(17372-87-1) 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)

EOSIN BLUISH(18472-87-2) 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)

C.I. ACID YELLOW 3(8004-92-0) 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)

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

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.

ECHA SUMMARY

Ingredient	CAS number	Index No	ECHA Dossier
ethylene glycol	107-21-1	603-027-00-1	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Acute Tox. 4	GHS07; Wng	H302
2	Acute Tox. 4; STOT RE 2; STOT RE 1; STOT SE 3; Skin Irrit. 2; Muta. 1B; Repr. 1B; STOT SE 1; Aquatic Chronic 3; Eye Irrit. 2; Org. Perox. G	GHS08; Dgr	H372; H336; H319; H332; H340; H360; H370; H412; H335; H315; H301

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
2-pyrrolidinone	616-45-5	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Eye Irrit. 2	GHS07; Wng	H319
2	Eye Irrit. 2; Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; STOT SE 3; Acute Tox. 3; Aquatic Chronic 3	GHS05; Dgr; GHS06	H315; H318; H335; H301; H311; H412

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
propylene glycol	57-55-6	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)

Continued...

1	Not Classified	Not Available	Not Available
2	Acute Tox. 4	GHS07; Wng	H302
2	Acute Tox. 3; Acute Tox. 4; Eye Irrit. 2; Skin Irrit. 2; Skin Sens. 1; Resp. Sens. 1; STOT SE 3; Carc. 2; Eye Dam. 1	GHS06; Dgr; GHS08; GHS05	H301; H315; H317; H334; H335; H351; H318; H332
1	Acute Tox. 4	GHS07; Wng	H302
2	Acute Tox. 4	GHS07; Wng	H302
1	Acute Tox. 4; Eye Irrit. 2	GHS07; Wng	H302; H319
2	Acute Tox. 4; Eye Irrit. 2	GHS07; Wng	H302; H319
1	Acute Tox. 4; Acute Tox. 4	GHS07; Wng	H302; H332
2	Acute Tox. 4	GHS07; Wng	H302; H332
1	Acute Tox. 4	GHS07; Wng	H302
1	Acute Tox. 4	GHS07; Wng	H302
2	Acute Tox. 4	GHS07; Wng	H302
1	Not Classified	Not Available	Not Available
2	Acute Tox. 4; Eye Irrit. 2; Aquatic Chronic 1; Skin Irrit. 2; STOT SE 3; Aquatic Chronic 2; Skin Sens. 1	Wng; GHS09; GHS08	H302; H319; H410; H315; H335; H336; H317

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	
1,2-benzisothiazoline-3-one	2634-33-5	613-088-00-6	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Acute Tox. 4; Skin Irrit. 2; Skin Sens. 1; Eye Dam. 1; Aquatic Acute 1	GHS09; GHS05; Dgr	H302; H315; H317; H318; H400
2	Acute Tox. 4; Skin Irrit. 2; Skin Sens. 1; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 2; Acute Tox. 2; Aquatic Chronic 3; Acute Tox. 3; Aquatic Chronic 1; Eye Irrit. 2; Not Classified	GHS09; GHS05; Dgr; GHS06; GHS08	H315; H317; H318; H400; H330; H410; H301

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
2-bromo-2-nitropropan-1,3-diol	52-51-7	603-085-00-8	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Acute Tox. 4; Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; STOT SE 3; Aquatic Acute 1	GHS09; GHS05; Dgr	H302; H312; H315; H318; H335; H400
2	Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 2; Flam. Sol. 2; Self-react. C; Acute Tox. 3; Acute Tox. 2; Aquatic Chronic 1; Aquatic Chronic 3	GHS09; GHS05; Dgr; GHS02; GHS06	H315; H318; H335; H400; H228; H242; H410; H301; H310; H330

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
2-octyl-4-isothiazolin-3-one	26530-20-1	613-112-00-5	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Acute Tox. 3; Acute Tox. 2; Skin Corr. 1B; Skin Sens. 1; Eye Dam. 1; Acute Tox. 2; Aquatic Acute 1; Aquatic Chronic 1	GHS09; GHS05; GHS06; Dgr	H301; H310; H314; H317; H318; H400; H410
2	Acute Tox. 3; Acute Tox. 2; Skin Corr. 1B; Skin Sens. 1; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; Acute Tox. 4; Not Classified	GHS09; GHS05; GHS06; Dgr	H301; H310; H330; H314; H317; H318; H400; H410

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
water	7732-18-5	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	Not Available	Not Available
2	Flam. Liq. 3; Acute Tox. 3; Skin Corr. 1A; Acute Tox. 2	GHS05; Dgr; GHS02; GHS06	H318; H226; H314; H301; H411

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
nonylphenol, ethoxylated	9016-45-9	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2	GHS09; GHS07; Wng	H302; H315; H319; H411
2	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2	GHS09; GHS07; Wng	H302; H315; H319; H411
1	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2	GHS09; GHS07; Wng	H302; H315; H319; H411

Continued...

2	Acute Tox. 4; Skin Irrit. 2; Aquatic Chronic 2; Eye Irrit. 2; STOT SE 3; Aquatic Chronic 1; Skin Sens. 1; Eye Dam. 1; Aquatic Chronic 3	GHS09; GHS05; Dgr	H302; H315; H410; H335; H317; H318
1	Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; Aquatic Chronic 2	GHS09; GHS05; Dgr	H302; H315; H318; H411
2	Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; Aquatic Chronic 2; Aquatic Chronic 3; Eye Irrit. 2	GHS09; GHS05; Dgr	H302; H315; H318; H411
1	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2	GHS09; GHS07; Wng	H302; H315; H319; H411
1	Acute Tox. 4; Eye Dam. 1; Aquatic Chronic 2	GHS09; GHS05; Dgr	H302; H318; H411
2	Acute Tox. 4; Eye Dam. 1; Aquatic Chronic 2	GHS09; GHS05; Dgr	H302; H318; H411
1	Acute Tox. 4; Eye Dam. 1; Aquatic Chronic 2	GHS09; GHS05; Dgr	H302; H318; H411
2	Acute Tox. 4; Eye Dam. 1; Aquatic Chronic 2	GHS09; GHS05; Dgr	H302; H318; H411
1	Aquatic Chronic 3		H412
2	Aquatic Chronic 3		H412
1	Acute Tox. 4; Eye Dam. 1; Aquatic Chronic 2	GHS09; GHS05; Dgr	H302; H318; H411
2	Acute Tox. 4; Eye Dam. 1; Aquatic Chronic 2	GHS09; GHS05; Dgr	H302; H318; H411
1	Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2	GHS09; GHS07; Wng	H315; H319; H411
2	Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2	GHS09; GHS07; Wng	H315; H319; H411
2	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2; Eye Dam. 1; Aquatic Chronic 3; STOT SE 3; Repr. 2; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 4; Aquatic Chronic 1; Asp. Tox. 1; Skin Corr. 1B	GHS09; GHS05; Dgr; GHS08; GHS06	H302; H318; H335; H361; H312; H400; H373; H410; H304; H371; H314
2	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2; Eye Dam. 1; Aquatic Chronic 3	GHS09; GHS05; Dgr	H302; H315; H411; H318
1	Eye Dam. 1; Aquatic Chronic 3	GHS05; Dgr	H318; H412
2	Eye Dam. 1; Aquatic Chronic 3	GHS05; Dgr	H318; H412
1	Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2	GHS09; GHS07; Wng	H315; H319; H411
2	Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2	GHS09; GHS07; Wng	H315; H319; H411
1	Acute Tox. 4; Eye Dam. 1; Aquatic Chronic 3	GHS05; Dgr	H302; H318; H412
2	Acute Tox. 4; Eye Dam. 1; Aquatic Chronic 3	GHS05; Dgr	H302; H318; H412
1	Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; Aquatic Chronic 2	GHS09; GHS05; Dgr	H302; H315; H318; H411
2	Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; Aquatic Chronic 2	GHS09; GHS05; Dgr	H302; H315; H318; H411
2	Acute Tox. 4; Eye Dam. 1; Aquatic Chronic 2	Dgr; GHS09; GHS05	H302; H318; H411
1	Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2	GHS09; GHS07; Wng	H315; H319; H411
2	Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2; Acute Tox. 4; Eye Dam. 1	GHS09; GHS05; Dgr	H315; H411; H302; H318
1	Aquatic Chronic 3		H412
2	Aquatic Chronic 3		H412
1	Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2	GHS09; GHS07; Wng	H315; H319; H411
2	Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2	GHS09; GHS07; Wng	H315; H319; H411

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
methyldiethanolamine	105-59-9	603-079-00-5	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Eye Irrit. 2	GHS07; Wng	H319
2	Eye Irrit. 2; Acute Tox. 4; Aquatic Chronic 3; STOT SE 3	GHS07; Wng	H319; H302; H412

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
C.I. Acid Blue 9, disodium salt	3844-45-9	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	Not Available	Not Available
2	Skin Irrit. 2; Eye Irrit. 2; STOT RE 2; Muta. 2; Aquatic Chronic 3	Wng; GHS08	H315; H319; H373; H341; H412

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
Coomassie Brilliant Blue G	6104-58-1	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	Not Available	Not Available
2	Eye Irrit. 2	Wng	H319

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

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Ingredient	CAS number	Index No	ECHA Dossier
C.I. Acid Red 14	3567-69-9*	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	Not Available	Not Available
2	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3	GHS07; Wng	H315; H319; H335

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
C.I. Acid Yellow 23	1934-21-0	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	Not Available	Not Available
2	Skin Sens. 1; Resp. Sens. 1; Aquatic Chronic 2; Aquatic Chronic 3; Repr. 2	GHS08; Dgr; GHS09	H317; H334; H411; H361

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
C.I. Food Yellow 3	2783-94-0	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	Not Available	Not Available
2	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; Aquatic Chronic 2; STOT RE 2; Aquatic Chronic 3	Wng; GHS09; GHS08	H315; H319; H335; H411; H373

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
C.I. Acid Blue 104	6505-30-2	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	Not Available	Not Available
2	Not Classified	Not Available	Not Available

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
C.I. Acid Violet 17	4129-84-4	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Aquatic Chronic 2	GHS09	H411
2	Aquatic Chronic 2; Eye Irrit. 2	GHS09; GHS07; Wng	H411; H319

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
C.I. Acid Red 88	2611-82-7	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Eye Irrit. 2	GHS07; Wng	H319
2	Eye Irrit. 2; Skin Irrit. 2	GHS07; Dgr	H319; H335; H315
1	Not Classified	Not Available	Not Available
2	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; Muta. 2	Wng; GHS08	H302; H315; H319; H335; H341

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
C.I. Acid Red 52, sodium salt	3520-42-1	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s	Hazard Statement Code(s)
1	Not Classified	Not Available	Not Available
2	Not Classified	Not Available	Not Available
1	Not Classified	Not Available	Not Available
2	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; Aquatic Chronic 3; Skin Sens. 1	GHS07; Dgr	H315; H319; H335; H412; H317

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier

Continued...

eosin yellowish	17372-87-1	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Eye Irrit. 2	GHS07; Wng	H319
2	Eye Irrit. 2; Eye Dam. 1; Acute Tox. 4; Acute Tox. 3	GHS05; Dgr; GHS06	H318; H332; H301; H311

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
eosin bluish	18472-87-2	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	STOT RE 2; Aquatic Chronic 3	GHS08; Wng	H373; H412
2	Eye Irrit. 2; Aquatic Chronic 1; STOT RE 2; Aquatic Chronic 3; Aquatic Acute 1; Skin Irrit. 2; STOT SE 3	GHS09; Wng; GHS08	H319; H410; H373; H400; H315; H335

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
C.I. Acid Yellow 3	8004-92-0	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	Not Available	Not Available
2	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2	GHS07; Wng	H302; H315; H319
1	Not Classified	Not Available	Not Available
2	Not Classified	Not Available	Not Available

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

National Inventory	Status
Australia - AICS	N (C.I. Acid Blue 104)
Canada - DSL	N (C.I. Acid Blue 104)
Canada - NDSL	N (methyldiethanolamine; C.I. Acid Yellow 3; Coomassie Brilliant Blue G; C.I. Food Yellow 3; C.I. Acid Red 52, sodium salt; eosin bluish; propylene glycol; 1,2-benzisothiazoline-3-one; 2-bromo-2-nitropropan-1,3-diol; 2-octyl-4-isothiazolin-3-one; C.I. Acid Red 88; water; C.I. Acid Blue 9, disodium salt; ethylene glycol; C.I. Acid Yellow 23; eosin yellowish; C.I. Acid Red 14; C.I. Acid Violet 17; 2-pyrrolidinone)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	N (C.I. Acid Blue 104)
Philippines - PICCS	N (C.I. Acid Blue 104)
USA - TSCA	Y
Legend:	*Y = All ingredients are on the inventory* *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

AUH066	Repeated exposure may cause skin dryness and cracking.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H242	Heating may cause a fire.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.

Continued...

H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H361	Suspected of damaging fertility or the unborn child.
H370	Causes damage to organs.
H371	May cause damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life.
H402	Harmful to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
Not Available	Not Available

Other information

Ingredients with multiple cas numbers

Name	CAS No
nonylphenol, ethoxylated	9016-45-9, 26027-38-3, 26571-11-9, 14409-72-4
C.I. Acid Blue 9, disodium salt	3844-45-9, 70992-30-2
Coomassie Brilliant Blue G	6104-58-1, 55965-18-9, 93907-61-0, 107120-23-0, 167396-16-9
C.I. Acid Yellow 23	1934-21-0, 642-62-6, 1342-47-8, 1342-53-6, 12000-64-5, 50809-64-8, 84842-94-4, 117209-34-4, 134240-82-7, 139601-06-2, 154881-98-8, 183808-13-1, 191807-79-1, 389057-90-3, 469888-21-9
C.I. Food Yellow 3	2783-94-0, 12707-27-6, 1342-61-6
C.I. Acid Violet 17	4129-84-4, 856315-67-8
C.I. Acid Red 88	1658-56-6, 2611-82-7, 11138-24-2, 247151-36-6, 51811-48-4, 161628-34-8, 39470-82-1, 12000-58-7, 39471-00-6, 39309-87-0
C.I. Acid Red 52, sodium salt	3520-42-1, 12777-86-5, 39470-83-2, 61261-16-3, 74871-35-5, 103947-10-0, 104298-69-3, 184827-20-1, 192230-72-1, 204996-41-8, 288323-20-6, 475472-70-9, 2609-88-3
eosin yellowish	17372-87-1, 548-26-5
C.I. Acid Yellow 3	8004-92-0, 12000-69-0, 12124-89-9, 39354-67-1, 65721-84-8, 83711-72-2, 84864-68-6

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.

The 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

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