MAY AND GRUNWALD'S EOSINE-METHYLENE BLUE MODIFIED (M.S.) SOLN.

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
MAY AND GRUNWALD'S EOSINE-METHYLENE BLUE MODIFIED (M.S.) SOLN.

OTHER NAMES

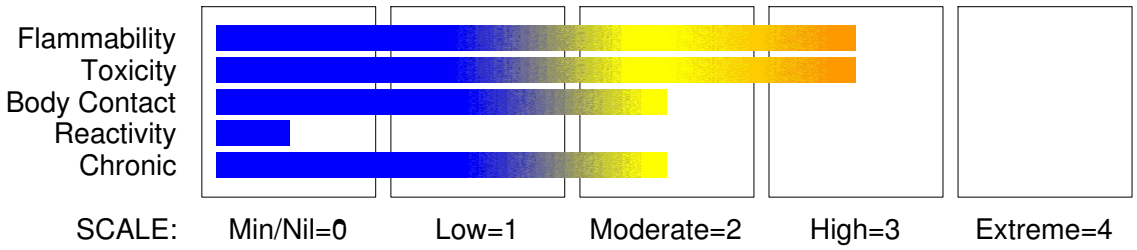
"microscopy stain"

PROPER SHIPPING NAME
CONTAINS METHANOL

PRODUCT USE
Microscopy stain for animal blood and other tissues.

SUPPLIER
Company: S D FINE- CHEM LIMITED
Address:
315- 317, T.V. INDUSTRIAL ESTATE,
248, WORLI,
MUMBAI- 400030.INDIA.
technical@sdfine.com
Telephone: 91- 22- 24959898
Telephone: 91- 22- 24959899
Fax: 91- 22- 24937232

HAZARD RATINGS



Section 2 - HAZARDS IDENTIFICATION

GHS Classification
Acute Toxicity (Dermal) Category 3
Acute Toxicity (Inhalation) Category 2
Acute Toxicity (Oral) Category 3
Eye Irritation Category 2B
Flammable Liquid Category 2
Organ Damage Category 1
Respiratory Effects Category 3

continued...

Skin Corrosion/Irritation Category 3

EMERGENCY OVERVIEW

HAZARD

DANGER
Determined by using GHS criteria:
H336 H225 H330 H301 H311 H316 H320 H372
May cause drowsiness and dizziness
Highly flammable liquid and vapour
Fatal if inhaled
Toxic if swallowed
Toxic in contact with skin
Causes mild skin irritation
Causes eye irritation
Causes damage to organs through prolonged or repeated exposure.

PRECAUTIONARY STATEMENTS

Prevention

Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Wear respiratory protection.
Ground/bond container and receiving equipment.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear protective gloves/clothing
Use only outdoors or in a well ventilated area.
Wear protective gloves and eye/face protection.
Keep container tightly closed.
Keep away from heat/sparks/open flame - No smoking.
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools.
Take precautionary measures against static discharge

Response

Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN: Gently wash with plenty of soap and water.
If eye irritation persists, get medical advice/attention.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
If skin irritation occurs, seek medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
In case of fire, use alcohol-type foam for extinction.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Get medical advice/attention if you feel unwell.
If on skin or hair: remove/take off immediately all contaminated clothing. Rinse with water/shower.
Specific treatment: refer to Label or MSDS.
Remove/Take off immediately all contaminated clothing
Wash/Decontaminate removed clothing before reuse.

continued...

Call a POISON CENTER or doctor/physician if you feel unwell.

Storage

Store locked up.

Disposal

Dispose of contents and container in accordance with relevant legislation.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
methanol	67-56-1	>99
May and Grunwald' s stain, as eosin yellowish	17372-87-1	<1
methylene blue	61-73-4	<1

Section 4 - FIRST AID MEASURES

SWALLOWED

For advice, contact a Poisons Information Centre or a doctor.
· IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.
· For advice, contact a Poisons Information Centre or a doctor.
Where Medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:
· Induce vomiting with fingers down the back of the of the throat, ONLY IF CONSCIOUS.
· Lean patient forward or place on left side (head-down position if possible) to maintain open airway and prevent aspiration.
NOTE: Wear a protective glove when inducing vomiting by mechanical means.
· In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.
· If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the MSDS should be provided. Further action will be the responsibility of the medical specialist.
· If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the MSDS.

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

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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

For acute and short term repeated exposures to methanol:
· Toxicity results from accumulation of formaldehyde/formic acid.
· Clinical signs are usually limited to CNS, eyes and GI tract Severe metabolic acidosis may produce dyspnea and profound systemic effects which may become intractable. All symptomatic patients should have arterial pH measured. Evaluate airway, breathing and circulation.
· Stabilise obtunded patients by giving naloxone, glucose and thiamine.
· Decontaminate with Ipecac or lavage for patients presenting 2 hours post-ingestion. Charcoal does not absorb well; the usefulness of cathartic is not established.
· Forced diuresis is not effective; haemodialysis is recommended where peak methanol levels exceed 50 mg/dL (this correlates with serum bicarbonate levels below 18 mEq/L).
· Ethanol, maintained at levels between 100 and 150 mg/dL, inhibits formation of toxic metabolites and may be indicated when peak methanol levels exceed 20 mg/dL. An intravenous solution of ethanol in D5W is optimal.
· Folate, as leucovorin, may increase the oxidative removal of formic acid. 4 -methylpyrazole may be an effective adjunct in the treatment. 8.Phenytoin may be preferable to diazepam for controlling seizure.
[Ellenhorn Barceloux: Medical Toxicology]
BIOLOGICAL EXPOSURE INDEX - BEI

Determinant	Index	Sampling Time	Comment
1. Methanol in urine	15 mg/l	End of shift	B, NS
2. Formic acid in urine	80 mg/gm creatinine	Before the shift at end of workweek	B, NS

B: Background levels occur in specimens collected from subjects NOT exposed.
NS: Non-specific determinant - observed following exposure to other materials.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

· Alcohol stable 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.
· May be violently or explosively reactive.
· Wear full body protective clothing with breathing apparatus.
· Prevent, by any means available, spillage from entering drains or water course.
· Consider evacuation (or protect in place).
· Fight fire from a safe distance, with adequate cover.
· If safe, switch off electrical equipment until vapour fire hazard removed.
· 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.

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Section 5 - FIRE FIGHTING MEASURES

· If safe to do so, remove containers from path of fire.
Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD
Liquid and vapour are highly flammable.
Dangerous hazard when exposed to heat, flame and oxidisers.
Severe vapour explosion hazard, when exposed to flame or spark.
Vapour may readily form an explosive mixture with air.
Vapour may travel a considerable distance to source of ignition.
Heating may cause expansion or decomposition leading to violent rupture of containers.
If involved in fire emits toxic fumes of carbon monoxide (CO) and carbon dioxide (CO_2).

FIRE INCOMPATIBILITY
Avoid contamination with strong oxidising agents as ignition may result.
Earth and secure containers when dispensing or pouring.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS
Clean up all spills immediately.
Shut off all possible sources of ignition and increase ventilation.
Avoid breathing vapours and contact with skin and eyes.
Wipe up and absorb small quantities with vermiculite or other absorbent material.
Place spilled material in clean, dry, sealable, labelled container.
Wash spill area with detergent and water.

MAJOR SPILLS
· Clear area of personnel and move upwind.
· Alert Fire Brigade and tell them location and nature of hazard.
· May be violently or explosively reactive.
· Wear full body protective clothing with breathing apparatus.
· Prevent, by any means available, spillage from entering drains or water course.
· Consider evacuation (or protect in place).
· No smoking, naked lights or ignition sources.
· Increase ventilation.
· Stop leak if safe to do so.
· Water spray or fog may be used to disperse vapour.
· Contain or absorb spill with sand, earth or vermiculite.
· Use only spark-free shovels and explosion proof equipment.
· Collect recoverable product into labelled containers for recycling.
· Collect solid residues and seal in labelled drums for disposal.
· Wash area and prevent runoff into drains.
· After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
· If contamination of drains or waterways occurs, advise emergency services.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)
The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:
methanol 5000 ppm

irreversible or other serious effects or symptoms which could impair an individual's ability to take

continued...

protective action is:
methanol 1000 ppm

other than mild, transient adverse effects without perceiving a clearly defined odour is:
methanol 200 ppm

The threshold concentration below which most people will experience no appreciable risk of health effects:
methanol 200 ppm

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	>= 0.1%	Toxic (T)	>= 3.0%
R50	>= 0.25%	Corrosive (C)	>= 5.0%
R51	>= 2.5%		
else	>= 10%		

where percentage is percentage of ingredient found in the mixture

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

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.
Avoid all personal contact, including inhalation.
Wear protective clothing when risk of exposure occurs.
Avoid smoking, naked lights, heat or ignition sources.
Vapour may travel a considerable distance to source of ignition.
and secure containers when dispensing or pouring product.
Use spark-free tools when handling.
Local exhaust ventilation may be required for safe working, i.e. to keep exposures below required standards, otherwise PPE is required.
until atmosphere has been checked., When handling, DO NOT eat, drink or smoke.
Keep containers securely sealed when not in use.
Always wash hands with soap and water after handling. Work clothes should be laundered separately.

SUITABLE CONTAINER

Glass container.
· Check that containers are clearly labelled.
Packaging as recommended by manufacturer.

STORAGE INCOMPATIBILITY

· Avoid oxidising agents, acids, acid chlorides, acid anhydrides.
Avoid reducing agents, alkali metals, beryllium dihydride, isocyanates
acetaldehyde, ethylene oxide, chloroform and potassium t-butoxide.
Slowly corrosive to lead and aluminium.
Attacks, softens and may dissolve rubber, many plastics, paints and coatings.

STORAGE REQUIREMENTS

Observe manufacturer's storing and handling recommendations.
Store in original containers in approved flammable liquid storage area.
Keep containers securely sealed.
No smoking, naked lights, heat or ignition sources.

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Store in a cool, dry and well-ventilated area.
Store away from oxidising materials.
DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
Protect containers against physical damage.
Check regularly for spills and leaks.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS

X	X	X	X	X	+

+: 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

The following materials had no OELs on our records

• methanol:	CAS:67- 56- 1
• eosin yellowish:	CAS:17372- 87- 1 CAS:548- 26- 5
• methylene blue:	CAS:61- 73- 4 CAS:7220- 79- 3 CAS:1341- 90- 8 CAS:6476- 03- 5 CAS:12262- 49- 6 CAS:97130- 83- 1 CAS:105504- 42- 5 CAS:121067- 62- 7 CAS:167498- 52- 4

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m3)	Revised IDLH Value (ppm)
methanol		6, 000

ODOUR SAFETY FACTOR (OSF)

OSF=2 (METHANOL)
Exposed individuals are NOT reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.
Odour Safety Factor (OSF) is determined to fall into either Class C, D or E.
The Odour Safety Factor (OSF) is defined as:
OSF= Exposure Standard (TWA) ppm/ Odour Threshold Value (OTV) ppm
Classification into classes follows:

Class	OSF	Description
A	550	Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV- TWA for example) is being reached, even when distracted by working activities
B	26- 550	As " A" for 50- 90% of persons being distracted
C	1- 26	As " A" for less than 50% of persons being distracted
D	0.18- 1	10- 50% of persons aware of being tested perceive by smell

continued...

		that the Exposure Standard is being reached
E	<0.18	As " D" for less than 10% of persons aware of being tested

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MATERIAL DATA

Not available. Refer to individual constituents.

INGREDIENT DATA

METHANOL:

Odour Threshold Value: 4.2-5960 ppm (detection), 53.0-8940 ppm (recognition)
NOTE: Detector tubes for methanol, measuring in excess of 50 ppm, are commercially available.
Exposure at or below the recommended TLV-TWA is thought to substantially reduce the significant risk of headache, blurred vision and other ocular and systemic effects.

EOSIN YELLOWISH:

It is the goal of the ACGIH (and other Agencies) to recommend TLVs (or their equivalent) for all substances for which there is evidence of health effects at airborne concentrations encountered in the workplace.

At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience). Airborne concentrations must be maintained as low as is practically possible and occupational exposure must be kept to a minimum.

NOTE: The ACGIH occupational exposure standard for Particles Not Otherwise Specified (P.N.O.S) does NOT apply.

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.

METHYLENE BLUE:

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,

continued...

· 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.
· Chemical goggles.
· Full face shield.
· 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
PVC gloves.
Rubber gloves.
Polyethylene gloves.
Safety footwear.

OTHER
Overalls and Rubber apron.
· Impervious protective clothing.
· Ensure that there is ready access to eye wash unit.
Ensure there is ready access to a safety shower.

RESPIRATOR
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.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half- face Respirator	Full- Face Respirator
1000	10	AX- AUS	-
1000	50	-	AX- AUS
5000	50	Airline *	-
5000	100	-	AX- 2
10000	100	-	AX- 3
	100+		Airline**

* - Continuous Flow ** - Continuous-flow or positive pressure demand.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.
For further information consult your
Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

Use in a well-ventilated area.
If inhalation risk of overexposure exists, wear SAA approved organic-vapour respirator.
Correct respirator fit is essential to obtain adequate protection.
In confined spaces where there is inadequate ventilation, wear full-face air supplied breathing apparatus.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Bluish purple highly flammable liquid; mixes with water. Highly volatile.
Sweet alcoholic (methanol) odour.

PHYSICAL PROPERTIES

Liquid.
Mixes with water.
Toxic or noxious vapours/gas.

Molecular Weight: Not applicable.
Melting Range (°C): Not available.
Solubility in water (g/L): Miscible
pH (1% solution): Not available
Volatile Component (%vol): >99
Relative Vapour Density (air=1): 1.1
Lower Explosive Limit (%): 7.3
Autoignition Temp (°C): 464
State: Liquid

Boiling Range (°C): 64
Specific Gravity (water=1): 0.79
pH (as supplied): Not available
Vapour Pressure (kPa): 13.3 @ 21 degC
Evaporation Rate: 5.9 BuAc=1
Flash Point (°C): 12
Upper Explosive Limit (%): 37
Decomposition Temp (°C): Not available

log Kow: -0.82- -0.66

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Presence of heat source and ignition source.
Product is considered stable under normal handling conditions.

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Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

Stable under normal storage conditions.
Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED
Toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 40 gram may be fatal or may produce serious damage to the health of the individual.
Methanol may produce a burning or painful sensation in the mouth, throat, chest and stomach. This may be accompanied by nausea, vomiting, headache, dizziness, shortness of breath, weakness, fatigue, leg cramps, restlessness, confusion, drunken behaviour, visual disturbance, drowsiness, coma and death. Onset of symptoms may be delayed for several hours. Effects are due partly to acidosis and partly to cerebral oedema. Visual impairment produces blurring, double vision (diplopia), changes in colour perception, restriction of visual fields and blindness. 60-200 ml of methanol is a fatal dose for most adults with as little as 10 ml producing blindness. In massive overdose, liver, kidney, heart and muscle injury have been described.

EYE
Limited evidence exists, or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals and/or is expected to produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.
The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

SKIN
Skin contact with the material may produce toxic effects; systemic effects may result following absorption.
The material is not thought to be a skin irritant (i.e. is unlikely to produce irritant dermatitis as described in EC Directives using animal models). Temporary discomfort, however, may result from prolonged dermal exposures. Good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
Toxic effects may result from skin absorption.
The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

INHALED
The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation, of the material, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.
Inhalation of vapour is more likely at higher than normal temperatures.

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CHRONIC HEALTH EFFECTS

Principal routes of exposure are usually by inhalation of vapour and skin contact / absorption of the liquid.
Minor but regular methanol exposures may effect the central nervous system, optic nerves and retinae. Symptoms may be delayed, with headache, fatigue, nausea, blurring of vision and double vision. Continued or severe exposures may cause damage to optic nerves, which may become severe with permanent visual impairment even blindness resulting.

WARNING: Methanol is only slowly eliminated from the body and should be regarded as a cumulative poison which cannot be made non-harmful [CCINFO].
Long-term exposure to methanol vapour, at concentrations exceeding 3000 ppm, may produce cumulative effects characterised by gastrointestinal disturbances (nausea, vomiting), headache, ringing in the ears, insomnia, trembling, unsteady gait, vertigo, conjunctivitis and clouded or double vision. Liver and/or kidney injury may also result.
Some individuals show severe eye damage following prolonged exposure to 800 ppm of the vapour.

TOXICITY AND IRRITATION

None assigned. Refer to individual constituents.

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

TOXICITY	IRRITATION
Oral (human) LDLo: 143 mg/kg	Skin (rabbit): 20 mg/24 h- Moderate
Oral (man) LDLo: 6422 mg/kg	Eye (rabbit): 40 mg- Moderate
Oral (man) TDLo: 3429 mg/kg	Eye (rabbit): 100 mg/24h- Moderate
Oral (rat) LD50: 5628 mg/kg	
Inhalation (human) TCLo: 86000 mg/m^3	
Inhalation (human) TCLo: 300 ppm	
Inhalation (rat) LC50: 64000 ppm/4h	
Dermal (rabbit) LD50: 15800 mg/kg	

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

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

TOXICITY	IRRITATION
Oral (rat) LD50: 4700 mg/kg*	Skin (rabbit): non- irritating*
Intravenous (Mouse) LD50: 550 mg/kg	Eye (rabbit): moderate*

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

[BASF]*

Bacterial cell mutagen
Equivocal tumorigen by RTECS criteria

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

TOXICITY	IRRITATION
Oral (rat) LD50: 1180 mg/kg	Nil Reported
Oral (mouse) LD50: 3500 mg/kg	

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Section 12 - ECOLOGICAL INFORMATION

No data for May And Grunwald's Staining Solution.
Refer to data for ingredients, which follows:

METHANOL:
DO NOT discharge into sewer or waterways.
log Kow: -0.82- -0.66
Half-life (hr) air: 427
Half-life (hr) H2O surface water: 5.3-64
Henry's atm m^3 /mol: 1.35E-04
BOD 5 if unstated: 0.76-1.12
COD: 1.05-1.50,99%
ThOD: 1.5
BCF: 0.2-10
Toxicity Fish: LC50(96): 11-15mg/L
TLm(48Hr): 8000mg/L (trout))
Toxicity Arthropoda: NOEL 10 g/L/48Hr (Daphnia)) [ICI]

EOSIN YELLOWISH:
DO NOT discharge into sewer or waterways.

METHYLENE BLUE:
Fish LC50 (96hr.) (mg/l): 100

DO NOT discharge into sewer or waterways.

Section 13 - DISPOSAL CONSIDERATIONS

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

Section 14 - TRANSPORTATION INFORMATION

Labels Required: FLAMMABLE LIQUID,TOXIC
HAZCHEM: 2WE

UNDG:

Dangerous Goods Class:	3	Subrisk:	6.1
UN Number:	1230	Packing Group:	II

ShippingName: Contains METHANOL

Air Transport IATA:

ICAO/IATA Class:	3	ICAO/IATA Subrisk:	6.1
UN/ID Number:	1230	Packing Group:	II
Special provisions:	A104áA113		

continued...

Section 14 - TRANSPORTATION INFORMATION

ShippingName: Contains METHANOL

Maritime Transport IMDG:

IMDG Class:	3	IMDG Subrisk:	6.1
UN Number:	1230	Packing Group:	II
EMS Number:	F- E, S- D	Special provisions:	279

ShippingName: Contains METHANOL

Section 15 - REGULATORY INFORMATION

REGULATIONS

May And Grunwald's Staining Solution (CAS: None):
No regulations applicable

methanol (CAS: 67-56-1) is found on the following regulatory lists;
IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances
International Council of Chemical Associations (ICCA) - High Production Volume List
OECD Representative List of High Production Volume (HPV) Chemicals

No data available for eosin yellowish as CAS: 17372-87-1, CAS: 548-26-5.
No data available for methylene blue as CAS: 61-73-4, CAS: 7220-79-3, CAS: 1341-90-8, CAS: 6476-03-5, CAS: 12262-49-6, CAS: 97130-83-1, CAS: 105504-42-5, CAS: 121067-62-7, CAS: 167498-52-4.

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
eosin yellowish	17372- 87- 1, 548- 26- 5
methylene blue	61- 73- 4, 7220- 79- 3, 1341- 90 - 8, 6476- 03- 5, 12262- 49- 6, 97130- 83- 1, 105504- 42- 5, 121067- 62- 7, 167498- 52- 4

REPRODUCTIVE HEALTH GUIDELINES

Ingredient	ORG	UF	Endpoint	CR	Adeq TLV
methanol	262 mg/m3	NA	NA	NA	Yes

These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time -weighted average unless specified otherwise.
CR = Cancer Risk/10000; UF = Uncertainty factor:
TLV believed to be adequate to protect reproductive health:
LOD: Limit of detection
Toxic endpoints have also been identified as:
D = Developmental; R = Reproductive; TC = Transplacental carcinogen
Jankovic J., Drake F.: A Screening Method for Occupational Reproductive American Industrial Hygiene Association Journal 57: 641-649 (1996).

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of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

Issue Date: 5-Apr-2018