

GENTIAN VIOLET (AQUEOUS) STAINING SOLUTION

GHS Safety Data Sheet

Version No:2.0

Page 1 of 12

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

GENTIAN VIOLET(AQUEOUS) STAINING SOLUTION

OTHER NAMES

C25-H30-Cl-N3, "ammonium, (4-bis(p-dimethylamino)phenyl)methylene)-2, 5-cyclohexadien-1-ylidene) dimethyl-, chloride", "ammonium, (4-bis(p-dimethylamino)phenyl)methylene)-2, 5-cyclohexadien-1-ylidene) dimethyl-, chloride", "parasoaniline, N, N, N', N', N''', N''''-hexamethyl-, chloride", "Gentian Violet", "hexamethylparaosaniline chloride"

PRODUCT USE

As a dye for wood, silk, paper; colourant in inks; as biological stain, acid-base indicator, alcohol denaturant, medicine (topical antibacterial and antiallergen).

SUPPLIER

Company: S D FINE - CHEM LIMITED

Address:

315- 317, T.V.IND.ESTATE,

248 WORLI ROAD,

MUMBAI- 400 030, INDIA

technical@sdfine.com

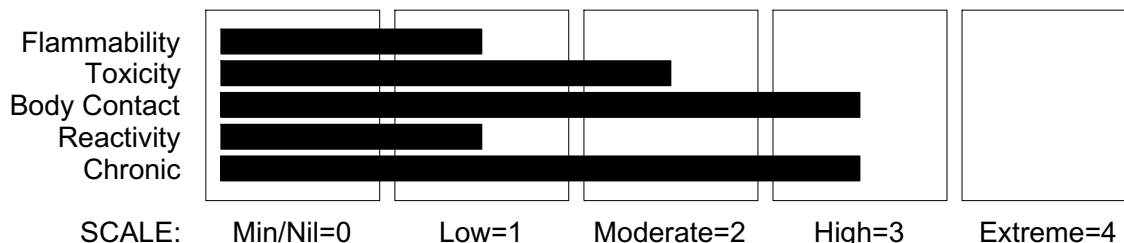
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Section 2 - HAZARDS IDENTIFICATION

HAZARD RATINGS



GHS Classification

Acute Aquatic Hazard Category 1

Acute Toxicity (Oral) Category 3

Carcinogen Category 1B

Chronic Aquatic Hazard Category 1

Germ Cell Mutagen Category 1B

Reproductive Toxicity Category 1B

continued...

GENTIAN VIOLET (AQUEOUS) STAINING SOLUTION

Version No:2.0

Page 2 of 12

Section 2 - HAZARDS IDENTIFICATION

Serious Eye Damage Category 1
Skin Corrosion/Irritation Category 3
Skin Sensitizer Category 1



EMERGENCY OVERVIEW

HAZARD

DANGER

Determined by using GHS criteria:

H301 H316 H317 H340 H350 H360 H318 H400 H410

Toxic if swallowed

Causes mild skin irritation

May cause allergic skin reaction

May cause genetic defects

May cause CANCER

May damage the unborn child

Causes serious eye damage

Very toxic to aquatic life

Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENTS

Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing should not be allowed out of the workplace.

Avoid release to the environment.

Wear protective gloves/protective clothing/eye protection/face protection.

Use personal protective equipment as required.

Response

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN: Wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/ attention.

Immediately call a POISON CENTER or doctor/physician.

Rinse mouth.

If skin irritation occurs: Get medical advice/ attention.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Collect spillage.

Storage

Store locked up.

continued...

GENTIAN VIOLET (AQUEOUS) STAINING SOLUTION

Version No:2.0

Page 3 of 12

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	<1%
C.I. Basic Violet 3 chloride	548-62-9	

Section 4 - FIRST AID MEASURES

SWALLOWED

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

EYE

- If this product comes in contact with the eyes:
- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- 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

- 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 dust is inhaled, remove from contaminated area.
- Encourage patient to blow nose to ensure clear passage of breathing.
- If irritation or discomfort persists seek medical attention.
- If fumes or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

- Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

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

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves for fire only.
- Prevent, by any means available, spillage from entering drains or water courses.

continued...

GENTIAN VIOLET (AQUEOUS) STAINING SOLUTION

Version No:2.0

Page 4 of 12

Section 5 - FIRE FIGHTING MEASURES

Cool fire exposed containers with water spray from a protected location.

If safe to do so, remove containers from path of fire.

FIRE/EXPLOSION HAZARD

- Solid which exhibits difficult combustion or is difficult to ignite.
 - Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion.
 - Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited; once initiated larger particles up to 1400 microns diameter will contribute to the propagation of an explosion.
 - A dust explosion may release of large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people.
 - Usually the initial or primary explosion takes place in a confined space such as plant or machinery, and can be of sufficient force to damage or rupture the plant. If the shock wave from the primary explosion enters the surrounding area, it will disturb any settled dust layers, forming a second dust cloud, and often initiate a much larger secondary explosion. All large scale explosions have resulted from chain reactions of this type.
 - Dry dust can also be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport.
 - Build-up of electrostatic charge may be prevented by bonding and grounding.
 - Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.
 - All movable parts coming in contact with this material should have a speed of less than 1-metre/sec.
- Decomposes on heating and produces toxic fumes of: hydrogen chloride, carbon monoxide (CO), nitrogen oxides (NO_x).
- Other combustion products include: carbon dioxide (CO₂).

FIRE INCOMPATIBILITY

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

PERSONAL PROTECTION

Glasses:
Safety Glasses.

Gloves:
When handling larger quantities:

Respirator:
Particulate

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Wear impervious gloves and safety glasses.
- Use dry clean up procedures and avoid generating dust.
- Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).
- Do NOT use air hoses for cleaning
- Place spilled material in clean, dry, sealable, labelled container.

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- Stop leak if safe to do so.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Neutralise/decontaminate residue.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.

continued...

GENTIAN VIOLET (AQUEOUS) STAINING SOLUTION

Version No:2.0

Page 5 of 12

Section 6 - ACCIDENTAL RELEASE MEASURES

- 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.

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR 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 enter confined spaces until atmosphere has been checked.
- Avoid smoking, naked lights or ignition sources.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.

SUITABLE CONTAINER

- Polyethylene or polypropylene container.
- Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY

- Avoid reaction with oxidising agents.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry area protected from environmental extremes.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations

For major quantities:

- Consider storage in bunded areas - ensure storage areas are isolated from sources of community water (including stormwater, ground water, lakes and streams).
- Ensure that accidental discharge to air or water is the subject of a contingency disaster management plan; this may require consultation with local authorities.
- Keep containers securely sealed.
- Keep dry.

Store in a cool, dry and well-ventilated area.

Store away from incompatible materials.

Store away from foodstuff containers.

Protect containers against physical damage.

- Check regularly for spills and leaks.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



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GENTIAN VIOLET (AQUEOUS) STAINING SOLUTION

Version No:2.0

Page 6 of 12

Section 7 - HANDLING AND STORAGE

X	X	+	X	X	+
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+: May be stored together

O: May be stored together with specific preventions

X: Must not be stored together

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

• C.I. Basic Violet 3 chloride: CAS:548- 62- 9 CAS:23355- 47- 7 CAS:7077- 31- 8

MATERIAL DATA

HODGSONS CRYSTAL VIOLET BP:

- None assigned. Refer to individual constituents.

C.I. BASIC VIOLET 3 CHLORIDE:

■ 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.

PERSONAL PROTECTION

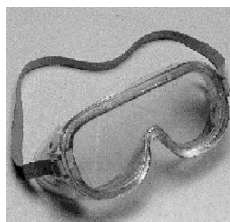
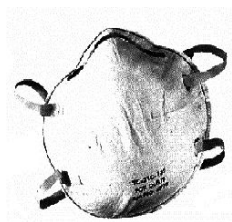
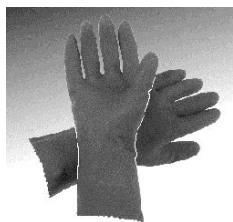
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GENTIAN VIOLET (AQUEOUS) STAINING SOLUTION

Version No:2.0

Page 7 of 12

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION



EYE

- Safety glasses.
- 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 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

- Butyl rubber gloves.
- Neoprene gloves.
- PVC gloves.
- Rubber gloves.
- Safety footwear.

OTHER

- No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls.
- Barrier cream.
- Eyewash unit.

RESPIRATOR

Protection Factor	Half- Face Respirator	Full- Face Respirator	Powered Air Respirator
10 x ES	P1 Air- line*	- -	PAPR- P1 -
50 x ES	Air- line**	P2	PAPR- P2
100 x ES	-	P3	-
		Air- line*	-
100+ x ES	-	Air- line**	PAPR- P3

* - Negative pressure demand

** - Continuous flow.

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

- General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific circumstances. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

continued...

GENTIAN VIOLET (AQUEOUS) STAINING SOLUTION

Version No:2.0

Page 8 of 12

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Type of Contaminant: solvent, vapours, degreasing etc., evaporating from tank (in still air). aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion) grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	Air Speed: 0.25- 0.5 m/s (50- 100 f/min) 0.5- 1 m/s (100- 200 f/min.) 1- 2.5 m/s (200- 500 f/min.) 2.5- 10 m/s (500- 2000 f/min.)
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Within each range the appropriate value depends on:

Lower end of the range 1: Room air currents minimal or favourable to capture 2: Contaminants of low toxicity or of nuisance value only. 3: Intermittent, low production. 4: Large hood or large air mass in motion	Upper end of the range 1: Disturbing room air currents 2: Contaminants of high toxicity 3: High production, heavy use 4: Small hood- local control only
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Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Bluish violet crystals or powder.
Soluble in water, chloroform. Partially soluble in alcohol, glycerol.
Practically insoluble in ether. Hygroscopic. Light sensitive.

PHYSICAL PROPERTIES

Solid.
Mixes with water.

State	Divided solid	Molecular Weight	407.985100
Melting Range (°C)	205 (decomposes)	Boiling Range (°C)	Not available.
Solubility in water (g/L)	Miscible	Flash Point (°C)	Not applicable
pH (1% solution)	Not available.	Decomposition Temp (°C)	205
pH (as supplied)	Not applicable	Autoignition Temp (°C)	Not available.

continued...

GENTIAN VIOLET (AQUEOUS) STAINING SOLUTION

Version No:2.0

Page 9 of 12

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Vapour Pressure (kPa)	Negligible	Upper Explosive Limit (%)	Not available.
Specific Gravity (water=1)	Not available.	Lower Explosive Limit (%)	Not available.
Relative Vapour Density (air=1)	Not applicable	Volatile Component (%vol)	Negligible
Evaporation Rate	Not applicable		

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

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

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

■ Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

EYE

- If applied to the eyes, this material causes severe eye damage.
- The dust may produce eye discomfort causing smarting, pain and redness.

SKIN

- The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, 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 on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

INHALED

- The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
 - Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.
- If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.

CHRONIC HEALTH EFFECTS

- There is ample evidence that this material can be regarded as being able to cause cancer in humans based on experiments and other information.
 - Principal routes of exposure are usually by skin contact/eye contact and inhalation of generated dust. Prolonged exposure can cause nausea, headache, vomiting. May cause nose bleed.
- The material may be tumorigenic and mutagenic.
- Probably all commercial brands of crystal and gentian violet cause severe

[NIOSHTIC]

continued...

GENTIAN VIOLET (AQUEOUS) STAINING SOLUTION

Version No:2.0

Page 10 of 12

Section 11 - TOXICOLOGICAL INFORMATION

cytogenic toxicity in vitro.

[NIOSTIC]

TOXICITY AND IRRITATION

■ Not available. Refer to individual constituents.

C.I. BASIC VIOLET 3 CHLORIDE:

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

TOXICITY

Oral (rat) LD50: 420 mg/kg

Intraperitoneal (rat) LD50: 96 mg/kg

Oral (mouse) LD50: 96 mg/kg

Intraperitoneal (mouse) LD50: 5.1 mg/kg

Oral (rabbit) LD50: 150 mg/kg * BASF Canada

Intraperitoneal (rabbit) LD50: 5 mg/kg

Intraduodenal (rabbit) LD50: 160 mg/kg

■ 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.

NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.

Exposure to the material for prolonged periods may cause physical defects in the developing embryo (teratogenesis).

Effects include acute pulmonary oedema, diarrhoea, nausea, vomiting.

Foetotoxic.

IRRITATION

Skin (human): 2 mg/2d I - Mild

Skin (human): 3 mg/3d I - Mild

Skin (rabbit): non-irritating *

Eye (rabbit): irritating *

Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:

C.I. BASIC VIOLET 3 CHLORIDE:

■ Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

■ Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters. Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

■ For organic cationics

Cationic substances, and their polymers and those polymers that are reasonably anticipated to become cationic in the natural aquatic environment (pH range 4-9) may be environmental hazards.

Exempt from this concern are those polymers to be used only in solid phase, such as ion-exchange resins, and where the FGEW (Functional Group Equivalent Weight) of cationic groups is not 5000 and above.

The numerous studies of aquatic toxicity, many of which were conducted in natural waters with and without added effluents, indicate that the source and composition of the test water dramatically affects the toxicity of the test substance. These results are consistent with the known behavior of these materials in the environment. Cationic substances in the environment instantaneously form complexes with naturally occurring negatively charged constituents in sewage, soils, sediments, and with dissolved humic substances in surface waters. This complexation behavior results in reduced bioavailability in actual environmental conditions that is not adequately represented by standard laboratory assays and/or predictions by various QSAR models.

Ecotoxicity:

These chemicals, by the nature of their surfactant properties, are toxic to aquatic organisms at low concentrations. Cationic groups such as alkylsulfoniums, alkylphosphoniums and quaternary ammonium polymers are highly toxic to fish and other aquatic organisms. Similarly potentially cationic groups such as amines and isocyanates are of concern. Some cationics, however, may fall into the category of PLCs (polymers of low concern) provided they possess low charge density, and/or are not water-soluble or are not self-dispersing polycarboxylates or poly- (aromatic or aliphatic) sulfonate polymers.

The toxicity of quaternary ammonium compounds is known to be greatly reduced in the environment because of preferential binding to dissolved organics in surface water.

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GENTIAN VIOLET (AQUEOUS) STAINING SOLUTION

Version No:2.0

Page 11 of 12

Section 12 - ECOLOGICAL INFORMATION

■ for basic dyes:

Environmental fate:

Many dyes are visible in water at concentrations as low as 1 mg/l. Textile-processing waste waters, typically with a dye content in the range 10- 200 mg /l are therefore usually highly coloured and discharge in open waters presents an aesthetic problem. As dyes are designed to be chemically and photolytically stable, they are highly persistent in natural environments. It is thus unlikely that they, in general, will give positive results in short-term tests for aerobic biodegradability. The release of dyes may therefore present an ecotoxic hazard and introduces the potential danger of bioaccumulation that may eventually affect man by transport through the food chain.

Basic dyes are cationic. Ionic compounds are generally non-volatile.

The biological treatment processes (activated sludge) have in many cases proved to be sufficient for removal of basic dyestuffs from waste waters.

Based on the properties of sediments, cation exchange is anticipated to be extensive and rapid for the basic dyes.

Dyes in the aquatic environment were reported to affect microbial populations and their activities. The inhibition by the basic dyes were stronger than the inhibition by acid dyes when the pH was above the isoelectric point of the micro-organism. The inhibition was weakened by introduction of the functional groups methyl, nitro, sulfo or acid to the azo dye or by replacement of the benzene ring with a naphthalene ring. However, introduction of chlorine or bromine strengthened the observed inhibition.

Furthermore, dyes must have a high degree of chemical and photolytic stability in order to be useful. It is thus unlikely that they, in general, will give positive results in short-term tests for aerobic biodegradability.

Some basic dyes are acutely toxic or toxic to aquatic organisms (fish, crustaceans, algae and bacteria).

Ecotoxicity:

Algae are generally susceptible to dyes, but the inhibitory effect is thought to be related to light inhibition at high dye concentrations, rather than a direct inhibitory effect of the dyes. This effect may account for up to 50% of the inhibition observed. Virtually all dyes from all chemically distinct groups are prone to fungal oxidation but there are large differences between fungal species with respect to their catalysing power and dye selectivity. A clear relationship between dye structure and fungal dye biodegradability has not been established. Fungal degradation of aromatic structures is a secondary metabolic event that starts when nutrients (C, N and S) become limiting. Therefore, while the enzymes are optimally expressed under starving conditions, supplementation of energy substrates and nutrients are necessary for propagation of the cultures.

■ DO NOT discharge into sewer or waterways.

Ecotoxicology:

Fish toxicity LC50 (48 h): *Oryzias latipes* 0.1 mg/l

Inhibition of bacteria in effluent (modified consumption test) 10-100 mg/l

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
C.I. Basic Violet 3 chloride	HIGH		LOW	LOW

Section 13 - DISPOSAL CONSIDERATIONS

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

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM:

☐ None

continued...

GENTIAN VIOLET (AQUEOUS) STAINING SOLUTION

Version No:2.0

Page 12 of 12

Section 14 - TRANSPORTATION INFORMATION

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

Section 15 - REGULATORY INFORMATION

REGULATIONS

Regulations for ingredients

C.I. Basic Violet 3 chloride (CAS: 548-62-9,23355-47-7,7077-31-8) is found on the following regulatory lists;

"Australia Hazardous Substances","Australia Inventory of Chemical Substances (AICS)"

No data for Gentian Violet (aqueous) staining solution (CAS: , Not avail)

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name

CAS

C.I. Basic Violet 3 chloride

548- 62- 9, 23355- 47- 7, 7077- 31- 8

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by using available literature references.

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

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied 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: 30-Mar-2018