Material Safety Data Sheet

Language: English

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1 Identification of the material and supplier

Product Name: **LavaPurple total protein stain 25mL**

Catalogue number: **LP-012025**

Company Details

Fluorotechnics
R257 Building E8C
Macquarie University, NSW 2109
Australia.
Emergency telephone number: call Local emergency services on 000 for Australia or (+612) 9850 6267
Email: enquiries@fluorotechnics.com

Area of Application: Industrial applications.
Product Use: Industrial applications: Analytical chemistry. Research use only.

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2. Hazard Identification

Hazard Symbol(s): F-Xn R11-20/21/22-36
Xi R36/38
Risk Phrases: R11-20/21/22-36 – Highly flammable. Harmful by inhalation, in contact with skin and if swallowed.
R36/38 - Irritating to eyes and skin.
Safety Phrases: S36/37 - Wear suitable protective clothing and gloves.
Statement of hazardous/dangerous nature
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

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3. Composition / information on ingredients

Mixture: Yes

Chemical name	CAS no.	% by Volume
Epicocconone	371163-96-1	N/A
Dimethyl sulfoxide	67-68-5	67.5
Acetonitrile	75-05-08	32.2

Additional Information: Not available.
Appearance: Purple Liquid at Room Temperature
Odor: Ethereal (slight)

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4. First-aid measures

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration.
If breathing is difficult, give oxygen. Obtain medical attention.

Ingestion: Obtain medical attention. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. Do NOT induce vomiting unless directed to do so by medical personnel.
Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact: In case of contact, immediately wash skin with soap and flush copiously with water for at least 15 minutes while removing contaminated clothing and shoes. Cold water may be used. Obtain medical attention immediately. Wash clothes and clean shoes thoroughly before reuse.

Eye contact: Check for and remove any contact lenses. In case of contact, immediately flush the eyes with a copious amount of water for at least 15 minutes. Cold water may be used. Obtain medical attention.

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5. Fire-fighting measures

Extinguishing media

Suitable: Use an extinguishing agent suitable for the surrounding fire

Not suitable: None known
No specific hazard

Special protective equipment for fire fighters:
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated pressure mode.

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6. Accidental release measures

Personal precautions:

Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.

Environmental precautions and cleanup methods:

Stop leak if without risk. Avoid dispersal of spilt material and runoff and contact with soil waterways drains and sewers.

Methods for cleaning up:

If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent such as dry-lime, sand or soda ash. Place in covered container and using non-sparking tools transport outside. Finish cleaning by ventilating area and spreading water on the contaminated surface after material has been removed.

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7. Handling and storage

Handling: Do not ingest. Avoid contact with eyes skin and clothing. Keep container closed. Use only with adequate ventilation. Avoid breathing vapor or mist. Wash thoroughly after handling.

Storage: Keep stain at -15 to -30°C in original container. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Special Requirements:

Avoid exposure to light. Do not allow moisture inside container.

Combustible Liquid:

Combustible liquid Class C1 (AS 1940).

Packaging materials recommended use:

Use original container.

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8. Exposure controls / personal protection

Occupational Exposure Limits

Ingredient name	Occupational Exposure limit
Dimethyl sulfoxide	**TRGS900 (Germany 8/2004). Skin** TWA:160 mg/m^3 8 hour/hours. Form: All forms
Acetonitrile	NOHSC (Australia, 8/2005) Skin Notes: ACGIH is the documentation source. STEL: 101 mg/m^3 15 minute/minutes. Form: All forms STEL: 60 ppm 15 minute /minutes. Form: All forms TWA 67mg/m^3 8 hour/ hours. Form: All forms TWA 40ppm 8 hour/hours. Form: All forms

Recommended monitoring procedures:

If this product contains ingredients with exposure limits, personal workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN689

for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Engineering measures:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures:

Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Ensure that eyewash stations and safety showers are close to the workstation locations.

Personal protection

Eyes: Safety eyewear complying with approved standards should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or gases.

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Respiratory: Use a properly fitted, air purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirators must be based on known or anticipated exposure levels, the hazard of the product and save working limits of the selected respirator.

Skin: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

9. Physical and chemical properties

Physical state:	Clear Liquid
Colour:	Purple
Odour:	Ethereal (slight)
Odour threshold:	The lowest known value is 40ppm (acetonitrile)
Boiling point:	The lowest known value is 82°C (179.6°F) (acetonitrile)
Melting point:	May start to solidify at approx. 18.4°C based on DMSO
Vapour pressure:	The highest known value is 9.7kPa (72.8mm Hg) at 20°C based on acetonitrile. Weighted average: 3.16kPa (23.7 mm Hg) at 20°C
Relative Density:	Weighted average approximately 0.98 (Water =1.0)
Density:	Weighted average approximately 0.98 g/cm^3
Flash point:	Between 61°C (142°F) and 93.3°C (200°F).
Explosive properties:	Not considered as a product presenting risks of explosion.
Flammable Limits:	The greatest known range is LOWER: 1.8% UPPER: 63%
Vapour density:	The highest known value is 2.7 (Air = 1). Weighted average 2.29
Viscosity:	Dynamic: the highest known value is 1.1 cP (dimethyl sulfoxide) Weighted average 0.86 cP. Kinematic: The highest known value is 0.316 cSt (acetonitrile).

Autoignition temperature: The lowest known value is 215°C (419°F) (dimethyl sulfoxide)
Evaporation rate: The highest known value is 2.33 (acetonitrile) weighted average: 0.77 compared with butyl acetate (1)
Solubility: Easily soluble in water, acetone, methanol, dimethyl sulfoxide.

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10. Stability and reactivity

Stability: The product is stable
Materials to avoid: Reactive with oxidizing agents, reducing agents, acids, alkalis. Slightly reactive to moisture.
Hazardous decomposition products:
These products are carbon oxides (CO, CO_2), nitrogen oxides (NO, NO_2, etc), sulfur oxides (SO_2, SO_3, etc.).

Hazardous Exothermic Reactions

Hazardous Exothermic Reactions: Dimethyl sulfoxide (DMSO) undergoes a violent exothermic reaction on mixing with copper wool and trichloroacetic acid. On mixing with potassium permanganate it will flash instantaneously. It reacts violently with: acid halides, cyanuric chloride, silicon tetrachloride, phosphorous trichloride and trioxide, thionyl chloride, magnesium perchlorate, silver fluoride, methyl bromide, iodine pentafluoride, nitrogen periodate, diborane, sodium hydride and perchloric and periodic acids. When heated above its boiling point dimethyl sulfoxide degrades giving off formaldehyde, methyl mercaptan and sulfur dioxide.

Remarks: Incompatibilities : Strong ox, acyl halides, boron compounds, non-metal halides, metal halides. Acetyl chloride, Acyl halides, Benzenesulfonylchloride, Benzoyl chloride, *p*-Bromobenzoyl acetanilide, Cyanuric chloride, Iodine pentafluoride, Magnesium perchlorate, Methyl bromide, Perchloric acid, Periodic acid, Phenyl chloride, Phosphorus oxychloride, Phosphorus trichloride, Phosphorus trioxide, Potassium permanganate, Silver fluoride, Sodium hydride, Thionyl chloride, Tolyl chloride--NFPA 491M

Reactions with other materials:
Reactions with common materials: forms stable coordination complexes with metals.

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11. Toxicological information

Local effects

Skin irritation: Hazardous in case of skin contact (irritant)
Skin absorption: May be harmful if absorbed through the skin. Readily absorbed through the skin
Eye irritation: Hazardous in case of eye contact (irritant)
Inhalation: Hazardous in case of inhalation (irritant) May be harmful if inhaled.
Ingestion: May be harmful if swallowed.

Toxicity data

Ingredient	Test	Result	Route	Species
Dimethyl sulfoxide	LD50	14500 mg/kg	Oral	Rat
	LD50	100 mg/kg	Oral	Wild bird species
	LD50	7920 mg/kg	Oral	Mouse
	LD50	50000 mg/kg	Dermal	Mouse
	LD50	40000 mg/kg	Dermal	Rat
Acetonitrile	LD50	2460 mg/kg	Oral	Rat
	LD50	50mg/kg	Oral	Rabbit
	LD50	177 mg/kg	Oral	Guinea Pig
	LD50	99 mg/kg	Dermal	Rat
	LC50	27.3 mg/l (4hour/hours)	Inhalation	Rat

Potential chronic health effects

Carcinogenic effects: No known significant effects or critical hazards.
Mutagenic effects: No known significant effects or critical hazards
Reproductive toxicity: No known significant effects or critical hazards

Over exposure signs/symptoms

Inhalation No known significant effects or critical hazards
Ingestion No known significant effects or critical hazards
Skin No known significant effects or critical hazards
Target organs Contains material which causes damage to the following organs: blood, kidney, liver, cardiovascular system, upper respiratory tract, skin, central nervous system, lens or cornea.

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12. Ecological information

Ecotoxicity Data

Ingredient	Species	Period	Result
Dimethyl sulfoxide	Pimephales promelas (LC50)	96 hour/hours	34000 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	35000 mg/l
	Lepomis macrochirus (LC50)	96 hour/hours	400000 mg /l
Acetonitrile	Daphnia magna (LC50)	96 hour/hours	>100 mg/l
	Sc quadricaudo (IC50)	192 hour/hours	7300 mg/l

Ingredient	Aquatic half-life	Photolysis	Biodegradability
Dimethyl sulfoxide	-	3.1%; 14 day/ days	Not readily
Acetonitrile		98%; 28 day/days	Readily

Bioaccumulative potential

Ingredient	LogPow	BCF	Potential
Dimethyl sulfoxide	-2.03	<4	Low
Acetonitrile	-0.34	0.3 to 0.4	Low

Other adverse effects

No known significant effects or hazards.

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13. Disposal considerations

Methods of disposal:

The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, water, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional authority requirements.

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14. Transport information

International transport regulations

Not classified

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15. Regulatory information

Hazard Symbol(s): F-Xn, Xi. Highly flammable. Harmful. Irritant.
Risk Phrases: R11-20/21/22-36/38 – Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin.
Safety Phrases: S36/37 – Keep away from sources of ignition – no smoking. Wear suitable protective clothing and gloves.

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16. Other information

Date of previous issue: No previous validation

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Enquiries regarding MSDS Content should be directed to: FLUOROtechnics office.

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