

SAFETY DATA SHEET

This Safety Data Sheet contains information concerning the potential risks to those involved in handling, transporting and working with this material, as well as describing potential risks to the environment. This information must be made available to those who may come into contact with the material or are responsible for the use of the material.

This Safety Data Sheet is prepared in accordance with formatting described in the REACH Regulation (EC) No 1907/2006, in CLP Regulation (EC) No 1272/2008 and in Annex I of the Commission Regulation (EU) No 2015/830.

SECTION 1. Identification of the substances/mixture and of the company/undertaking

1.1 Product Identifier

Product Name: **Elastin Stain (Miller)**
Product Number: **HS235**
Brand: **TCS Biosciences**
IUPAC name: **not determined**

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

Identified uses: For professional use only.

1.3 Details of the supplier of the safety data sheet

Company: TCS Biosciences Ltd
Botolph Claydon, Buckingham,
MK18 2LR, UK
Telephone: +44 (0) 1296 714222
Email address: sales@tcsgroup.co.uk
Web address: www.tcsbiosciences.co.uk
EC Representative: TCS Biosciences Europe B.V.,
Provincial Weg 6,
Kornhom,
Netherlands.

1.4 Emergency telephone number

+44 (0)1296 714222 only available during the following office hours:
Monday – Thursday 8:30 – 17:00 GMT/BST
Friday 9:00 – 15:00 GMT/BST

SECTION 2. Hazards Identification

2.1 Classification of the substance or mixture

2.1.1 Classification in accordance with the Classification Labelling and Packaging Regulation EC (no) 1272/2008:

Flammable liquid (Category 2)
Corrosive Metal (Category 1)
Skin Damage (Category 1)
Eye Damage (Category 1)
Acute inhalation toxicity, (Category 4)
Acute Oral Toxicity (Category 4)
Specific Target Organ Toxicity - Single Exposure Category 2
Chronic aquatic Toxicity (Category 3)

2.2 Label Elements

2.2.1 Labelling in accordance with the Classification Labelling and Packaging Regulation EC (no) 1272/2008:

Pictograms:



Signal word:

Danger

Hazard Statements

- H225 Highly flammable liquid and vapour.
- H290 May be corrosive to metals.
- H314 Causes severe skin burns and eye damage.
- H302 Harmful if swallowed.
- H332 Harmful if inhaled.
- H371 May cause damage to the optic nerve & central nervous system by the oral route.
- H412 Harmful to aquatic life with long lasting effects.

Precautionary Statement(s)

- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P309+P311 IF exposed or you feel unwell: Call a POISON CENTER or doctor/physician
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
No smoking.
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses if present and easy to do. Continue rinsing.
- P273 Avoid release to the environment.

2.3 Other hazards: Dyes and Stains by their physical nature may result in permanent staining if in contact with skin and clothing.

No substance contained in this product meets the criteria for vPvB and PBT according to Regulation (EC) No 1907/2006, Annex XIII; and, no substance within this product is identified as having endocrine disrupting properties according to Regulation (EU) 2017/2100.

SECTION 3. Composition/Information on Ingredients

3.2 Mixtures

Synonyms: None

Component	EC-No	CAS-No	Concentration	Classification in accordance with Regulation (EC) No 1272/2008
Ethanol	200-578-6	64-17-5	90-95%	Flam. Liq. 2; H225
Methanol	200-659-6	67-56-1	4.5-5.0%	Flam. Liq. 2; H225, AcuteTox.3; H331,H301,H311 STOT SE 1;H370
Hydrochloric Acid	231-595-7	na	0.5-1%	Skin Corr. 1B; H314, STOT SE3; H335.
Iron (III) chloride hexahydrate	231-729-4	10025-77-1	0.4-0.5%	Acute Tox 4; H302, Corr. Metal 1; H290, Skin irrit. 2; H315, Eye Dam. 1; H318.
Resorcinol	203-585-2	108-46-3	0.1-0.5%	Acute Tox 4; H302, Skin irrit. 2; H315, Eye Irrit. 2; H319, Aquatic Acute 1; H400.
Victoria Blue	219-943-6	2580-56-5	<0.05%	Acute Tox. 4; H302, Eye Dam.1; H318, Skin sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410.
New Fuchsin	221-831-7	3248-91-7	<0.05%	Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Carc. 2; H351.
Crystal Violet (Basic Violet 3)	208-953-6	548-62-9	<0.05%	Carc. 2; H351, Acute tox. 4; H302, Eye Dam. 1; H318, Aquatic Acute 1; H400, Aquatic Chronic 1; H410.

Refer to section 16 for additional classification information.

SECTION 4. First Aid Measures

4.1 Description of first aid measures

If exposed keep patient calm and seek immediate medical attention. Show this safety data sheet to doctor/physician in attendance.

If inhaled

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Get medical advice/attention.

In case of skin contact

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

In case of eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical advice/attention.

If swallowed

Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. Rinse out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical advice/attention..

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of immediate medical attention and special treatment needed
No data available.**SECTION 5. Fire-Fighting Measures****5.1 Suitable extinguishing media**

Use alcohol-resistant foam or fine water spray, dry chemical powder or carbon dioxide. For large fires immediately alert fire emergency services. Evacuate personnel to safe area.

5.2 Special hazards arising from the substance or mixture

May emit toxic fumes under fire: Carbon oxides, Nitrogen oxide.

5.3 Precautions for fire-fighters

Avoid contact with skin and eyes. Wear self-contained breathing apparatus /protective clothing. Cool surrounding with water spray. Heating causes a rise in pressure, risk of bursting /explosion. Vapour is slightly heavier than air. Beware of backfire. Stay on upwind side. Use only explosion proved equipment. In case of violent hazardous effect: Wear appropriate tightly sealed suit.

5.4 Further information

Class of fire: B Liquid or melting substances.

SECTION 6. Accidental Release Measures**6.1 Personal precautions, protective equipment and emergency procedures**

Observe all warning labels on container. Ensure adequate ventilation. Avoid breathing vapours, mist or gas. Wear respiratory protection and other personal protective equipment provided.

Shut off all naked flames and other sources of ignition. Vapour is slightly heavier than air, and may accumulate in low areas to form explosive concentrations. Prevent build-up of electrostatic charge. Wash hands thoroughly after handling.

6.2 Environmental precautions

Avoid discharge into the environment. Do not let undiluted product or large quantities enter drains or water course. Prevent further leakage or spillage where safe to do so. Inform responsible authorities as appropriate.

6.3 Methods and materials for containment and cleaning up

Absorb spillage with appropriate absorbent material e.g. vermiculite or sand; and dispose into suitably labelled closed containers for disposal according to local regulations. Use non-sparking tools. If using a vacuum cleaner ensure unit is spark-proof /electrically protected. Avoid ignition of vapour. Wash spillage site with water and appropriate detergent.

6.4 Reference to other sections

For disposal refer to section 13.

SECTION 7. Handling and Storage**7.1 Precautions for safe handling**

Observe all warning labels on container. Use only closed apparatus. Ensure adequate ventilation. Avoid breathing vapours, mist or gas. Wear appropriate personal protective equipment provided. Shut off all naked flames and other sources of ignition. Take precaution to avoid exposure. Use leak-proof equipment with exhaust for refilling or transfer. Avoid splashing. Use solvent resistant utensils. Prevent build-up of electrostatic charge. Beware of vapours (slightly heavier than air) accumulating in low areas to form explosive concentrations. Wash hands thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated cool place. Containers which are opened must be carefully resealed and kept upright to prevent leakage..

7.3 Specific end uses

Recommend restriction to professional users only.

SECTION 8. Exposure Controls//Personal Protection

8.1 Control parameters

Components with workplace control parameters

TWA Time Weighted Average Concentration (Long Term Exposure Limit)
 STEL Short Term Exposure Limit
 LTEL Long Term Exposure Limit

Component	CAS-No	Value	Control Parameters	Basis
Methanol	67-56-1	TWA LTEL – 8h STEL – 15mins	200 ppm – 266mg/m ³ 250 ppm – 333g/m ³	UK.EH40 WEL- Workplace Exposure limit
Ethanol	64-17-5	TWA LTEL – 8h	1000ppm 1920 mg/m ³	UK.EH40 WEL- Workplace Exposure limit
Hydrochloric acid (as hydrogen chloride)	EC No 231-595-7	TWA LTEL – 8h STEL – 15mins	1 ppm – 2mg/m ³ 5 ppm – 8mg/m ³	UK.EH40 WEL- Workplace Exposure limit
Iron (III) chloride hexahydrate	10025-77-1	TWA LTEL – 8h STEL – 15mins	1 mg/m ³ 2 mg/m ³	UK.EH40 WEL- Workplace Exposure limit
Resorcinol	108-46-3	TWA LTEL – 8h STEL – 15mins	10 ppm - 46mg/m ³ 20 ppm – 92mg/m ³	UK.EH40 WEL- Workplace Exposure limit

8.1.3 DNEL's Workers

Component	Route of Exposure	Acute Effects local	Acute Effects systemic	Chronic Effects local	Chronic Effects systemic
Methanol CAS-No 67-56-1	Oral	na	8mg/kg bw/day	na	8mg/kg bw/day
	Inhalation	na			
	Dermal	na	8mg/kg bw/day	na	8mg/kg bw/day
Ethanol CAS-No 64-17-5	Oral	na			
	Inhalation	na	na	na	950 mg/m ³
	Dermal	na	na	na	343mg/kg bw/day**

** Repeated dose toxicity – NOAEL Oral Value: 8238 mg/kg bw/day

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

8.2.2 Personal protective equipment

8.2.2.1 Eye/face protection

Avoid exposure to sprays/mist/aerosols. Use face shield and/or safety goggles for eye protection complying with appropriate government standards such as EN166 (EU).

8.2.2.2 Skin and Body Protection

Handle with chemical-resistant, impervious gloves or complying with appropriate government standards: EU Directive 89/686/EEC; standard EN 374. Inspect gloves prior to use to ensure adequate protection. Use proper glove removal technique to avoid skin contact with substance/ mixture. Dispose of contaminated gloves after use in accordance with local and national applicable laws and good laboratory practises. Wash and dry hands thoroughly after handling. Promptly remove any contaminated clothing and clean appropriately before reuse. Use chemically protective clothing with closed cuffs and closed neck, appropriate to the concentration /amount of the dangerous substance at the specific workplace.

SECTION 11. Toxicological Information

11.1 Information on toxicological effects

This product has not been tested. Judgements on the expected toxicity of this product have been made based upon consideration of its major components.

Toxicokinetics - Mixture

- (a) Acute toxicity Based on available data; the classification criteria are met.
 HS235 - Harmful if inhaled. Harmful if swallowed.
 Methanol CAS-No 67-56-1
 Oral, human: LDLo=300mg/kg
 Inh, monkey: LCLo=1000ppm
 Derm, monkey: LDLo= 393mg/kg
 Crystal Violet (Basic Violet 3) CAS-No 548-62-9
 Oral, rat: LD50= 420mg/kg
 Resorcinol CAS-No 548-62-9
 Oral, rat: LD50= 510mg/kg
 Iron (III) chloride hexahydrate CAS-No 10025-7-1
 Oral, rat: LD50= 895mg/kg
 Victoria Blue CAS-No 2580-56-5
 Oral, rat: LD50= 500mg/kg
- (b) Skin corrosion/irritation Based on available data; the classification criteria are met.
 Hydrochloric Acid - Causes severe skin burns and eye damage.
- (c) Serious eye damage/
 eye irritation Based on available data; the classification criteria are met.
 HS235 Causes severe skin burns and eye damage.
 Iron (III) chloride, Victoria Blue, Crystal Violet - Cause serious eye damage.
- (d) Respiratory or
 skin sensitization Based on available data; the classification criteria are not met.
 Victoria Blue - May cause an allergic skin reaction.
- (e) Germ cell mutagenicity Based on available data; the classification criteria are not met.
- (f) Carcinogenicity Based on available data, the classification criteria are not met.
 Tumourigenic **RTECS criteria:** Crystal Violet - B09000000
IARC: No component contained in this product is present at levels greater than or equal to 0.1% which is identified as possible human carcinogen by IARC/EU.
 Crystal Violet – 2B Possibly carcinogenic to humans.
 New Fuchsin – 2B Possibly carcinogenic to humans.
- (g) Reproductive toxicity Based on available data; the classification criteria are not met.
- (h) STOT Specific target organ toxicity
 - single exposure Based on available data; the classification criteria are met.
 HS235 - May cause damage to the optic nerve & central nervous system by the oral route.
- (i) STOT Specific target organ toxicity
 - repeated exposure Based on available data; the classification criteria are not met.
- (j) Aspiration hazard Based on available data; the classification criteria are not met.

Potential health effects

- Inhalation** Harmful if inhaled. May cause respiratory tract irritation.
- Ingestion** Harmful if swallowed. Contains components which may cause vomiting or other adverse effects such as diarrhoea.
- Skin** Causes severe skin burns. May be harmful in prolonged contact with skin. Readily adsorbed. May cause skin irritation and/or allergic skin reaction.
- Eyes** Causes serious eye damage.

Signs and Symptoms of Exposure

Short term exposure may result in drowsiness, headache, confusion, sickness, abdominal pain, possibly within 30 minutes of exposure.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties:

No component of this mixture is classified as endocrine disrupting according to Regulation (EU) No 2017/2100.

11.2.2 Other information:

No data available.

SECTION 12. Ecological Information

This product has not been tested. Judgements on the expected toxicity of this product have been made based upon consideration of its major components.

12.1 Toxicity

Not classified as dangerous to the environment.

Toxicity to Fish

LC50 - Pimephales promelas = 0.082mg/ 96h (CAS No 548-62-9)

LC50 - Leuciscus idus = 0.158mg/l 96h (CAS-No 2580-56-5)

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna = 1 mg/l (CAS 108-46-3)

EC50 - Daphnia magna = 0.00368mg/L 48h (CAS-No 2580-56-5)

EC50 - Daphnia magna - 0.24 mg/l - 48h (CAS No 548-62-9)

EC50 - Crustacea = 0.060mg/L 16days (CAS-No 2580-56-5)

Toxicity to algae

EC50 - 1-10mg/l 72-96h (CAS-No 2580-56-5)

EC50 - 0.21mg/l (CAS 548-62-9)

NOEC - 0.199 mg/L (CAS 548-62-9)

ErC50 - 0.13mg/l – 72h (CAS No 548-62-9)

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

Adverse ecological effects cannot be excluded in the event of improper handling or disposal.

Do not let undiluted product or large quantities enter drains or water course. Inform responsible authorities as appropriate.

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvBs

12.6 Endocrine disrupting properties

No component of this mixture is classified as endocrine disrupting according to Regulation (EU) No 2017/2100.

12.7 Other adverse effects

CAS No 548-62-9 - WGK 3 highly water endangering

SECTION 13. Disposal Considerations

13.1 Waste treatment methods

13.1.1 Product

Offer surplus. Dispose of non-recyclable substances via a licensed waste material processor in accordance with local authority requirements.

Contaminated Packaging

Dispose of as unused product.

SECTION 14. Transport Information

		ADR/RID	IMDG	IATA
14.1	UN-Number	1170	1170	1170
14.2	UN proper shipping name	Ethanol Solution		
14.3	Transport hazard class(es)	3	3	3
14.4	Packaging group	II	II	II
14.5	Environmental hazards	No	Marine pollutant: No	No
14.6	Special precautions for users	No data available		
14.7	Maritime transport in bulk according to IMO instruments	No data available		

SECTION 15. Regulatory information

This Safety Data Sheet complies with the requirements of Regulations (EC) No. 1907/2006 and its amendments (EU) No. 453/2010 & (EU) No. 2015/830; and (EC) No. 1272/2008.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
All components are listed as existing substances in Europe**15.2 Chemical Safety Assessment**

A Chemical Safety Assessment has not been carried out for this product.

SECTION 16. Other information**Additional information from Section 3.**Hazard Statement(s)

H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H317	May cause allergic skin reaction.

Further information

The information herein is provided in good faith and is correct to the best of our knowledge but makes no representation as to its completeness or accuracy. This safety data sheet is intended for use only as a guide for the appropriate precautionary handling of material by suitably trained persons.

TCS Biosciences Ltd shall not be held liable for any loss, injury or damage which may result from its use.

v1 created 05.06.2013

v2 Created 15.01.2014 CLP Update

v3 created 22.10.2014 updated methanol/ethanol concentration

v3.1 created 16.10.2015, removal of classification and labelling according to Directive 1999/45/EEC & 67/548/EEC; changes to sections 3.2, 9, 11, 12 & 16.

v4,0 created 28.01.2016, change to classification affecting sections 2 & 11; change to proper shipping name, section 14.

v5.0 created 01.04.2017, addition of StainHD logo

V6 created 04.01.2018, change to classification of a component and therefore to product.

Version 7 created 13.04.2022, addition of EC Representative information to Section 1, format updated to comply with Annex II of REACH.

HS235 end