

SAFETY DATA SHEET

Membrane ExM Fluorescent Probe Range

Product codes: ER-20 range | Version: 3.0 | Issue date: 30.09.2026

Section 1: Identification

1.1. Product identifier

Product name: Chrometra Membrane ExM

Product code: ER-20 range

Product description: Fluorescent membrane-staining derivatives supplied as a dry reagent or thin dry film for microscopy workflows.

REACH registration: Not applicable/required for the product as supplied; individual components may be exempt or below applicable tonnage thresholds

1.2. Relevant identified uses and uses advised against

Recommended use: Laboratory reagent for fluorescent labelling and retention of cellular membranes and membrane-rich structures in microscopy workflows; research use only.

Use descriptors: PROC15 – Use as laboratory reagent; PC21 – Laboratory chemicals; SU24 – Scientific research and development.

Uses advised against: Diagnostic, therapeutic, food, cosmetic, household or direct in vivo human/veterinary use.

1.3. Details of the supplier of the safety data sheet

Company: Chrometra Scientific B.V.

Address: Industriepark 6
3300 Tienen
Belgium

Website: www.chrometra.com

Email: info@chrometra.com

1.4. Emergency telephone number

For medical emergencies, contact the Belgian Poison Centre: +32 (0)70 245 245 (24/7, Belgium). Outside Belgium, contact the applicable national poison centre. For product information, contact the supplier by email.

List of national toxicological centers:

NETHERLANDS	+31 88 755 8000 (24/7, healthcare professionals only)
FRANCE	+33 1 45 42 59 59 (24/7)
SWITZERLAND	145, international: +41 44 251 51 51 (24/7)
SPAIN	+34 91 562 04 20 (24/7)
ITALY	+39 06 3054 343 (24/7)
UNITED STATES	+1 800 222 1222 (24/7)

Section 2: Hazard(s) identification

2.1. Classification of the substance or mixture

Provisional classification according to Regulation (EC) No 1272/2008 (CLP): Acute Toxicity Category 4 (oral), Skin Irritation Category 2, Eye Irritation Category 2 and Specific Target Organ Toxicity - Single Exposure Category 3 (respiratory tract irritation). The range contains multiple amphiphilic fluorophore structures; classification must be confirmed for each catalogue item from its final identity, purity, counterions, impurities and test data.

2.2. Label elements

Hazard pictograms:	
Signal word:	Warning

Hazard statements:	H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation.
Precautionary information:	P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash hands thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves/protective clothing/eye protection/face protection. P301+P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell. P330 Rinse mouth. P302+P352 IF ON SKIN: Wash with plenty of water. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P332+P313 If skin irritation occurs: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P501 Dispose of contents/container through an approved hazardous-waste route.

2.3. Other hazards

These probes are designed to associate strongly with biological membranes. Fluorophore identity, lipophilic anchor, charge, linker, counterions and retention chemistry vary across the range, and complete toxicological data are generally unavailable. Avoid skin, eye and mucous-membrane contact and handle every variant as a potentially bioactive laboratory chemical.

PBT, vPvB and endocrine-disruption conclusions cannot be finalized for the product family without variant-specific structures and data. Lipophilic fluorophores may partition into organisms or solids and may persist; prevent environmental release and assess every final derivative separately.

Formulation limitation: this SDS covers the membrane probe as supplied as a dry solid or thin dry film. Reconstituted stock solutions inherit the hazards of the selected solvent. Products supplied in DMSO, DMF, methanol or another solvent require formulation-specific classification and documentation.

Section 3: Composition/Information on ingredients

3.2. Mixture

Component	Identifier	Typical concentration
Fluorescent amphiphilic membrane probe (Membrane ExM variant)	Structure and CAS vary by fluorophore and membrane anchor; may be proprietary or unassigned	Typically $\geq 90\%$ of dry solids
Counterions, residual solvents, stabilizers or impurities, if present	Identity and concentration formulation-dependent	Typically $\leq 10\%$

The exact fluorophore, membrane anchor, linker, charge, counterion, retention group and impurity profile vary across the Membrane ExM range. No single CAS number represents the range. Section 3 and the CLP classification must be finalized separately for each catalogue item, with hazardous impurities and residual solvents disclosed at applicable thresholds.

Section 4: First-aid measures

4.1. Description of first-aid measures

GENERAL ADVICE: Seek medical advice if symptoms occur. If medical attention is required, provide this safety data sheet to medical personnel.

IN CASE OF INHALATION: Remove the person to fresh air and keep comfortable for breathing. Immediately call a poison centre or physician. If breathing is difficult, trained personnel should administer oxygen.

IN CASE OF SKIN CONTACT: Immediately remove contaminated clothing. Wash skin with plenty of soap and water for at least 15 minutes. Immediately call a poison centre or physician. Wash contaminated clothing before reuse.

IN CASE OF EYE CONTACT: Rinse cautiously with water for at least 15 minutes. Remove contact lenses if easy to do. Obtain immediate medical advice.

IN CASE OF INGESTION: Rinse mouth. Do not induce vomiting. Immediately call a poison centre or physician. Never give anything by mouth to an unconscious person.

FIRST AIDER PROTECTION: Avoid direct contact. First-aiders should use gloves, protective clothing, eye protection and respiratory protection appropriate to the exposure.

4.2. Most important symptoms and effects, both acute and delayed

May be harmful if swallowed. Causes skin and serious eye irritation. Dust or aerosol may irritate the respiratory tract. Strong membrane affinity and variant-specific charge or lipophilicity may alter biological effects; toxicological information is limited.

4.3. Indication of immediate medical attention and special treatment needed

Treat symptomatically. No specific antidote is known. Show this SDS, the product label, exact probe identity and the solvent used for reconstitution to medical personnel.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Water spray, alcohol-resistant foam, dry chemical or carbon dioxide, selected for the surrounding fire.

Unsuitable media: No specific restriction known.

5.2. Special hazards arising from the substance or mixture

Combustion or thermal decomposition may generate carbon oxides, nitrogen oxides, sulfur oxides, hydrogen halides and other irritating or toxic fumes, depending on the fluorophore, anchor and counterion.

5.3. Advice for fire-fighters

Wear self-contained breathing apparatus and suitable protective clothing when fighting a fire. Prevent contaminated firefighting water from entering drains where practicable.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Avoid contact with skin and eyes. Avoid breathing vapours, mist or dust, where applicable. Trained personnel should use appropriate personal protective equipment as described in Section 8. Keep unnecessary or unprotected persons away from the affected area

6.2. Environmental precautions

Avoid release to drains, surface water and soil. Lipophilic or charged dyes may adsorb to solids, partition into organisms or persist; ecological properties have generally not been determined.

6.3. Methods and materials for containment and cleaning up

Do not dry sweep. Carefully collect dry material using damp disposable absorbent or a suitable HEPA-filtered method. Absorb solutions with inert material. Place all material and cleaning waste in sealed, labelled hazardous-waste containers. Use absorbent material compatible with the solvent. Clean with water and laboratory detergent after bulk recovery.

6.4. Reference to other sections

See Section 8 for personal protection measures and Section 13 for disposal considerations.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handle only by trained personnel in accordance with good laboratory practice. Ensure adequate ventilation. Avoid contact with skin and eyes. Avoid breathing vapours, mist or dust, where applicable. Do not eat, drink or smoke while handling the product. Wash hands thoroughly after handling. Keep the container closed when not in use.

Prevent contamination of gloves, benches and imaging equipment.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Keep tightly closed, dry and protected from moisture and light. Store at the temperature stated on the product label or technical data sheet. Prepare stock solutions using the specified solvent and store or use them only as directed; avoid repeated freeze-thaw cycles unless validated.

Additional conditions: Research-use membrane-staining reagent for expansion microscopy only.

Incompatible materials: Strong oxidizing agents, strong acids and strong bases. Protect fluorescent probes from heat, moisture and intense light. Confirm incompatibilities for any reactive retention group present in a specific variant.

Section 8: Exposure controls/personal protection

8.1. Control parameters

No substance-specific occupational exposure limit or biological limit value has been established for the product variants. Minimise exposure and prevent inhalation of dust, aerosol or solvent vapour.

8.2. Exposure controls

Engineering controls: Use a certified chemical fume hood, ventilated balance enclosure or equivalent local exhaust for all open handling of the dry reagent and concentrated stock.

General hygiene measures: Do not eat, drink or smoke while handling the product. Wash hands after handling. Remove contaminated PPE before leaving the work area.

Hand protection: Chemical-resistant disposable gloves (e.g., nitrile). Select glove material and breakthrough time for both the reagent and reconstitution solvent; change gloves immediately after contamination.

Eye/face protection: Chemical splash goggles; add a face shield where splash or dust exposure is possible.

Skin/body protection: Fastened laboratory coat or protective gown and closed footwear. Use additional disposable protective clothing where contamination is possible.

Respiratory protection: Use an appropriately selected and fitted particulate respirator if engineering controls cannot fully prevent dust or aerosol exposure, in accordance with institutional and local requirements.

Environmental exposure controls: Prevent uncontrolled release to drains or the environment.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state/form:	Solid; typically, a coloured powder or thin dry film
Colour:	Product-dependent; coloured/fluorescent
Odour:	Odourless or no characteristic odour
Melting/freezing point:	Not determined; fluorophore derivative may decompose
Boiling point / flammability / flash point:	Not applicable or not determined for the dry low-mass reagent
Vapour pressure/density/viscosity:	Not applicable or not determined
Solubility:	Typically soluble in DMSO or DMF; water solubility and dispersion behaviour are variant-dependent and may be limited by the membrane-binding anchor

pH:	Not applicable to dry product; pH and stability after dissolution are formulation-dependent
Auto-ignition temperature / partition coefficient / decomposition:	Not determined
Particle characteristics:	Powder or amorphous dry film; particle-size distribution not determined

9.2. Other information

Excitation/emission maxima, molar absorption, fluorescence quantum yield and spectral response to membrane binding depend on the probe; consult the variant-specific technical data sheet.

Section 10: Stability and reactivity

10.1. Reactivity

No hazardous reactivity is expected under normal conditions of use, storage and transport.

10.2. Chemical stability

Expected to be stable when stored as labelled in a tightly closed container protected from light, heat and moisture. Stability after reconstitution is solvent- and variant-dependent.

10.3. Possibility of hazardous reactions

No hazardous polymerisation is expected under normal laboratory conditions. Variant-specific reactive or retention groups may hydrolyse or react with nucleophiles.

10.4. Conditions to avoid

Heat, moisture, intense light, incompatible chemicals, dust generation and prolonged storage of reconstituted solutions outside labelled conditions.

10.5. Incompatible materials

Strong acids, strong bases and oxidizing agents; additional incompatibilities depend on the probe and retention group.

10.6. Hazardous decomposition products

Carbon oxides, nitrogen oxides, sulfur oxides, hydrogen halides and other irritating or toxic products may form, depending on the fluorophore, anchor and counterion.

Section 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity:	Provisionally classified as Acute Toxicity Category 4 (oral), H302. No product-specific LD ₅₀ data are available; confirm for each variant.
Skin corrosion/irritation:	Provisionally classified as Skin Irritation Category 2, H315. Lipophilic or amphiphilic probes may associate with skin and biological membranes.
Serious eye damage/irritation:	Provisionally classified as Eye Irritation Category 2, H319. Dust or solution may cause marked irritation.
Respiratory/skin sensitisation:	Not classified because data are insufficient. Sensitisation potential has not been determined; avoid repeated exposure.
Mutagenicity/carcinogenicity/reproductive toxicity:	Not classified; no reliable product-specific data are available. The unsupported legacy H351, H361 and H372 statements have not been retained.

STOT – single/repeated exposure:	Single exposure: provisionally classified as Category 3, H335, for respiratory tract irritation. Repeated exposure: not classified; no reliable product-specific data are available.
Aspiration hazard:	Not applicable to the solid product.
Likely routes:	Ingestion, inhalation of dust or aerosol, and eye or skin contact.

11.2. Information on other hazards

No endocrine-disrupting properties are presently known. Other toxicological effects are unknown.

Section 12: Ecological information

12.1. Toxicity

No product-specific aquatic toxicity data available.

12.2. Persistence and degradability

No product-specific data. Persistence and degradation depend on fluorophore, anchor, charge and any reactive retention group.

12.3. Bioaccumulative potential

Not determined. Membrane affinity and lipophilicity indicate that some variants may partition into organisms or have bioaccumulative potential.

12.4. Mobility in soil

Not determined; mobility depends on charge, lipophilicity, counterion, adsorption and degradation products.

12.5. Results of PBT and vPvB assessment

Cannot be concluded for the range; assess each final variant against PBT and vPvB criteria.

12.6. Endocrine disruption

No endocrine-disrupting properties are presently known; confirm for each final variant.

12.7. Other adverse effects

Avoid environmental release. Lipophilic fluorophores, anchors and degradation products may persist or partition into biota and solids.

Section 13: Disposal considerations

13.1. Waste treatment methods

Dispose of unused reagent, stock solutions, staining baths, wash solutions and contaminated packaging as hazardous laboratory chemical waste through an approved route. Do not discharge to drains. Waste classification must consider the fluorophore, membrane anchor, solvent, buffer, biological sample and expansion-microscopy reagents. Empty containers may retain residue.

Section 14: Transport information

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not expected to be regulated as dangerous goods under ADR/RID, IMDG or IATA in the dry quantities normally supplied, subject to confirmation for each variant, counterion and solvent formulation

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not classified as a marine pollutant/environmentally hazardous substance

14.6. Special precautions for user

Keep sealed, dry, protected from light and at the labelled storage temperature. Follow any carrier restrictions applicable to coolant or solvent used in the shipment

14.7. Maritime transport in bulk

Not intended for transport in bulk; not applicable

Section 15: Regulatory information

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

Prepared for supply and use in the European Union under REACH and CLP. No component is presently known to be present above applicable thresholds as an SVHC or REACH Annex XIV substance. Confirm the fluorophore, membrane anchor, linker, retention group, counterions and impurities against the Candidate List, Annex XIV and Annex XVII for every catalogue variant.

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

Section 16: Other information

Version / revision information:

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Additional information:

Classification method: Conservative expert judgement for the product family; product variants have not been tested as a whole.

Abbreviations: ADR: road transport; CLP: Classification, Labelling and Packaging; IATA: air transport; IMDG: maritime transport; PBT: persistent, bioaccumulative and toxic; REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals; vPvB: very persistent and very bioaccumulative.

Training advice: Users should be trained in safe handling of fluorescent membrane probes, organic solvents, spill response, light-sensitive reagents and hazardous-waste segregation.

Disclaimer:

The information provided in this safety data sheet reflects the information available to Chrometra at the date of issue and is intended to support the safe handling, storage, use and disposal of the product. It does not constitute a specification or guarantee of specific product properties.

For research use only. Not intended for diagnostic or therapeutic use.

End of Safety Data Sheet