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1. Identification of the Substance/Mixture and of the Company

The current safety data sheet applies for conjugates of the dye series Abberior LIVE of the Abberior GmbH.

1.1 Product Identifier

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1.2 Relevant identified uses and uses advised against

Fluorescent dye for physical/chemical research purposes, spectroscopy, and optical microscopy in biological and biomedical applications.

This product is sold for research and development purposes only and *must not* be used for any human or animal therapeutic, clinical diagnostic or other medical purpose. It is not intended for food, drug, household, agricultural, or cosmetic use.

Herein mentioned conjugates are probes which can be used for labeling substructures in mitochondria inside living cells. This cationic cyanine dye will stain cristae in mitochondria.

1.3 Details of the Supplier of the Safety Data

Sheet Manufacturer / Distributor

Abberior GmbH

Street/PO Box

Hans-Adolf-Krebs-Weg 1

Country Code/Postal Code/City

DE – 37077 Göttingen, Germany

Contact for Technical Inquiries

Dr. Florian Grimm, +49 551 9995 4011, info@abberior.com

Phone / E-Mail

+49 551 9995 4011 / inof@abberior.com

1.4 Emergency Telephone Numbers

ITALY: +39 06 305 4343

(Centro Antiveleni, Roma, www.tox.it)

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FINLAND:	+358 9 471 977 (24h / 7 days) www.hus.fi/sairaanhoito/sairaanhoitopalvelut/myrkytystietokeskus/Sivut/default.aspx)
FRANCE:	+33 1 40 05 48 48 (24h / 7 days) (Centres antipoison et de toxicovigilance, Paris, www.centres-antipoison.net)
GERMANY:	+49 551 19240 (24h / 7 days) (Giftinformationszentrum-Nord, Göttingen, www.giz-nord.de)
ISRAEL:	+972 4 854 1900 (Israel Poisons Information Centre, Haifa)
RUSSIA:	+7 495 628 16 87 (24h / 7 days) (Research and Applied Toxicology Centre (RATC) of Federal Medical Biological Agency, Moscow, www.rtiac.org)
SPAIN:	+34 91 562 04 20 (Servicio de Información Toxicológica, Instituto Nacional de Toxicología, Madrid)
SWEDEN:	112 , international: +46 8 33 12 31 (24h / 7 days) (Giftinformationscentralen, Stockholm, www.giftinformation.se)
SWITZERLAND:	145 , international: +41 44 251 51 51 (24h / 7 days) (Swiss Toxicological Information Centre, www.toxi.ch)
UNITED KINGDOM:	111 (24h / 7days) (National Poisons Information Service, http://www.npis.org/)
UNITED STATES Of AMERICA:	+1 800 222 1222 (24h / 7 days) (National Capital Poison Center, www.poison.org)

See www.who.int/ipcs/poisons/centre/directory/en for a worldwide directory of poison control centres. Hazards Identification

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2.1 Classification of the Substance or Mixture Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 4), H302

Skin irritation (Category 2), H315 Germ cell mutagenicity (Category 2), H341

Reproductive toxicity (Category 2), H361fd

Specific target organ toxicity - repeated exposure (Category 2), H373

2.2 Labelling According to Regulation (EC) No 1272/2008 [CLP/GHS]

A final and binding classification has not been done.

Hazard Statements (H-phrases)

The product was not tested for hazards.

Precautionary Statements (P-phrases)**Prevention:**

P261	Avoid breathing dust/fume/gas/mist/vapours/spray .
P262	Do not get in eyes, on skin, or on clothing.
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.
P235 + P410	Keep cool. Protect from sunlight.

Response:

P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
P309 + P311	IF exposed or you feel unwell: Call a POISON CENTER or doctor/physician.

Storage:

P402	Store in a dry place.
P404	Store in a closed container.
P411 + P235	Store at temperatures not exceeding –15 °C.

Additional Labelling

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Substance not fully tested.

2.3 Other Hazards

No further hazards are known.

2. Composition/Information on Ingredients

3.1 Substances

Fluorescent cationic cyanine dye, solid.

Impurities and Stabilizers

None.

3.2 Mixtures

The product is a pure substance, not a mixture.

3. First Aid Measures

4.1 Description of First Aid Measures

General advice:

Consult physician. Show this safety data sheet to the doctor in charge.

Following Inhalation

Move to fresh air. Seek medical advice.

Following Skin Contact

Rinse skin with plenty of water. Move person to a hospital and consult a medical doctor.

Following Eye Contact

Remove contact lenses. Immediately rinse with plenty of water, also under the eyelid. Proceed for at least 15 minutes. Consult an ophthalmologist.

Following Ingestion

Immediately wash your mouth with plenty of water. Consult a doctor.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

If unconscious call an emergency. Consult a poison control center (see Section 1.4) before administering an antidote.

4. Fire-Fighting Measures

5.1 Extinguishing Media

Suitable: extinguishing foam, carbon dioxide, dry extinguishing powder, water spray water.

Unsuitable: full water jet.

5.2 Special Hazards Arising from the Substance or Mixture

No information available.

5.3 Advice for Fire-Fighters

Wear self-contained breathing apparatus.

Keep quench water away from drains, surface, and ground water and soil.

Wear protective suit to avoid skin contact; stay in safe distance.

5. Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental Precautions

Dissolved material should not enter drains.

6.3 Methods and Material for Containment and Cleaning up

Collect escaped material mechanically. Soak up dissolved product with inert absorbent material. Collect material in dedicated, properly labeled containers. Dispose in accordance with federal, state and local regulations. Do not dispose dissolved material into drains.

6.4 Reference to Other Sections

Follow protective measures given in Sections 7 and 8.

6. Handling and Storage

7.1 Precautions for Safe Handling

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Follow good hygiene and safety practices:

- No eating, drinking and smoking in working areas.
- Wash hands after use.
- Take off contaminated clothing and protective equipment before entering eating areas.
- Avoid the formation of dust and aerosol

7.2 Conditions for Safe Storage, Including any Incompatibilities

Technical Measures and Storage Conditions

Store the product at temperatures not exceeding -15°C . Keep dry and in the dark. Keep container tightly closed in a cool and dry place.

The product must not be stored together with pharmaceuticals, foods and feedstuff.

7.3 Specific End Uses

Fluorescent dye for physical/chemical research purposes, spectroscopy, and optical microscopy in biological and biomedical applications.

7. Exposure Controls / Personal Protection

8.1 Control Parameters

No information available.

Exposure Values

No information available.

8.2 Exposure Controls

Appropriate Engineering Controls

Work in a fume cupboard or use a source extraction.

Personal Protection Equipment

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

Respiratory protection

No breathing apparatus necessary when working properly in a fume cupboard.

Skin Protection

Wear protective gloves according to EN 374.

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Material: nitrile rubber

Minimum layer thickness: 0.11 mm

Penetration time: 480 min

Eye Protection

Wear safety goggles according to EN 166:2001.

Environmental Exposure Controls

See Sections 6 and 7.

8. Physical and Chemical Properties**9.1 Basic Physical and Chemical Properties****Appearance:** solid**Molecular Weight:** 891.0 g/mol**Solubility:** Methanol, DMF, DMSO, ACN**Explosive Properties:** The product is not explosive.**9.2 Other Properties**

No other properties available.

9. Stability and Reactivity**10.1 Reactivity**

No reactivity with significant heat production known.

10.2 Chemical Stability

The product is for a short period of time chemically stable under ambient conditions (room temperature).

10.3 Possibility of Hazardous Reactions

No hazardous reactions known when used properly.

10.4 Conditions to Avoid

No information available.

10.5 Incompatible Materials

strong oxidizer; strong acid

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10.6 Hazardous Decomposition Products

No hazardous decomposition products known.

10. Toxicological Information

11.1 Information on Toxicological Effects

The substance has not been tested for toxicological effects. No toxicological effects have been described for the substance.

Acute Toxicity

Not tested.

Skin Corrosion/Irritation

Not tested.

Serious Eye Damage/Irritation

Not tested.

Respiratory or Skin Sensitisation

Not tested.

Toxicity on Repeated Exposure

Not tested.

Mutagenicity

Not tested.

Carcinogenicity

Not tested.

Toxicity for Reproduction

Not tested.

11. Ecological Information

12.1 Toxicity

No data available

12.2 Persistence and Degradability

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Not tested.

12.3 Bioaccumulative Potential

Not tested.

12.4 Mobility in Soil

Not tested.

12.5 Results of PBT and vPvB Assessment

Not tested.

12.6 Other Adverse Effects

Not tested. No adverse are known when handled and disposed properly. Do not allow product to reach sewage system.

12.7 Additional Information

Not tested.

12. Disposal Considerations**13.1 Waste Treatment Methods**

Dispose in accordance with federal, state and local regulations.

13. Transport Information**14.1 UN Number**

Not determined.

14.2 Proper Shipping Name

Not determined.

14.3 Hazard Class

Not determined.

14.4 Packaging Group

Not classified.

14.5 Environmental Hazards

Not classified.

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14.6 Special Precautions for User

See Sections 6 – 8.

14.7 Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not classified.

14. Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

Not classified. To the best of our knowledge safety, health and environmental regulations according to VO (EC) 1907/2006 are not applicable.

15.2 Chemical Safety Assessment

No safety assessment has been conducted.

15. Other Information

This product is intended for use only by persons with proper skills and at their own risk. It is the responsibility of the user to determine the product's suitability for its intended use, the product's safe use, and the product's proper disposal.

The recommendations given in this data sheet are based on prudent application of professional judgment. The information is given as a guide but shall not be taken as complete. As this product may pose unknown hazards it should be used with caution.

Since Abberior GmbH cannot control the conditions of use of the product, it shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SAFETY DATA SHEET DOES NOT CONSTITUTE A WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

EU Regulations

Regulation (EC) No. 1907/2006 (REACH), revised by Regulation (EU) No. 253/2011.

Regulation (EC) No. 1272/2008, revised by Regulation (EC) No. 790/2009.

U.S. Federal Regulations

SARA 313

Not regulated by SARA.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

Does not contain HAPs.

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German Regulations*Zubereitungsrichtlinie* (1999/45/EG), revised by Regulation (EG) No. 1907/2006.*Stoffrichtlinie* (67/548/EWG), revised by Regulation 2009/2/EG.**Abbreviations & Acronyms**

CAS	Chemical Abstracts Service
DMF	<i>N,N'</i> -Dimethylformamide
DMSO	Dimethylsulfoxide
ACN	Acetonitril

Contact Persons for this Data Sheet

Dr. Gerald Donnert

Dr. Florian Grimm

Abberior GmbH

Abberior GmbH

Hans-Adolf-Krebs-Weg 1

Hans-Adolf-Krebs-Weg 1

37077 Göttingen

37077 Göttingen

Phone: +49 551 9995 4011

Phone: +49 551 9995 4011

E-Mail: info@abberior.comE-Mail: info@abberior.com