Fluorescent polymer particle suspension

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 4/8/2024 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : Fluorescent polymer particle suspension
Product code : 50000 Series
Product group : Trade product

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : For professional use only
Use of the substance/mixture : Scanning, detection and validation

Title	Life cycle stage	Use descriptors
Dyed and Fluorescent Polymer Microspheres - 50000 Series	Professional	SU0, PC20, PROC15

Full text of use descriptors: see section 16

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Applied Microspheres GmbH
Nestléstr. 41
55120 Mainz
Germany
T +49 (0) 6131 5540080
info@applied-microspheres.com, www.applied-microspheres.com

1.4. Emergency telephone number

No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

EUH-statements : EUH210 - Safety data sheet available on request.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	2-methoxyethanol; ethylene glycol monomethyl ether (109-86-4)

Component	
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	2-methoxyethanol; ethylene glycol monomethyl ether (109-86-4)

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

Component	
Substance(s) not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605	2-methoxyethanol; ethylene glycol monomethyl ether (109-86-4)

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Product name	Product identifier	% w/w (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-methoxyethanol; ethylene glycol monomethyl ether substance listed as REACH Candidate (2-Methoxyethanol) substance with a Community workplace exposure limit	CAS-No.: 109-86-4 EC-No.: 203-713-7 EC Index-No.: 603-011-00-4 REACH-no: 01-2119494721-33	0.1 – 1	Flam. Liq. 3, H226 Repr. 1B, H360FD Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Oral), H302

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : In all cases of doubt, or when symptoms persist, seek medical attention.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For personal protection see section 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.
Storage temperature : 4 – 30 °C , should not exceed 49°C.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

2-methoxyethanol; ethylene glycol monomethyl ether (109-86-4)	
EU - Binding Occupational Exposure Limit (BOEL)	
Local name	2-Methoxyethanol
BOEL TWA	1 ppm
Notes	Skin (Substantial contribution to the total body burden via dermal exposure possible)

2-methoxyethanol; ethylene glycol monomethyl ether (109-86-4)	
Regulatory reference	DIRECTIVE (EU) 2022/431 (amending Directive 2004/37/EC)
EU - Biological Limit Value (BLV)	
Local name	2-Methoxyethanol
BLV	8 mg/g creatinine Parameter: methoxyacetic acid - Medium: urine - Sampling time: end of work-week after at least 2 weeks at work
Regulatory reference	SCOEL List of recommended health-based BLVs and BGVs

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

2-methoxyethanol; ethylene glycol monomethyl ether (109-86-4)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	910 µg/kg dw
Long-term - systemic effects, inhalation	3.2 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	550 µg/kg dw
PNEC (Water)	
PNEC aqua (freshwater)	10 mg/l
PNEC aqua (marine water)	1 mg/l
PNEC aqua (intermittent, freshwater)	94 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	36.8 mg/kg dwt
PNEC sediment (marine water)	3.68 mg/kg dwt
PNEC (Soil)	
PNEC soil	1.87 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	7.3 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	1 g/L

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

Eye protection:
Recommendation. Wear eye glasses with side protection according to EN 166. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure

8.2.2.2. Skin protection

Skin and body protection:
Recommendation: Wear suitable protective clothing. Lab coat

Hand protection:
If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes. Recommendation: Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): e.g. nitrile rubber (>=0.4 mm), butyl rubber (>=0.7 mm) and others. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

8.2.2.3. Respiratory protection

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. High efficiency particulate air filter (HEPA filter)

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

Other information:
Always wash your hands immediately after handling this product, and once again before leaving the workplace.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Various colours.
Odour	:	Odourless.
Odour threshold	:	Not available
Melting point	:	≈ 250 °C
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Not applicable
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	Not available
Viscosity, kinematic	:	Not available
Solubility	:	Water: The particles are non-soluble. But the suspension can be mixed with water in any ratio.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	Not available
Relative density	:	Not available
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

2-methoxyethanol; ethylene glycol monomethyl ether (109-86-4)	
LD50 oral rat	2257 mg/kg
LD50 dermal rabbit	3930 mg/kg
ATE oral	500 mg/kg bodyweight
ATE dermal	1100 mg/kg bodyweight
ATE gases	4500 ppmv/4h
ATE vapours	11 mg/l/4h
ATE dust/mist	1.5 mg/l/4h

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

2-methoxyethanol; ethylene glycol monomethyl ether (109-86-4)	
LOAEL (oral, rat, 90 days)	71 mg/kg bodyweight Animal: rat, Animal sex: male
LOAEL (dermal, rat/rabbit, 90 days)	1000
NOAEL (oral, rat, 90 days)	< 71 mg/kg bodyweight Animal: rat, Animal sex: male

Aspiration hazard : Not classified

2-methoxyethanol; ethylene glycol monomethyl ether (109-86-4)	
Viscosity, kinematic	≈ 1.773 mm²/s

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

2-methoxyethanol; ethylene glycol monomethyl ether (109-86-4)	
LC50 - Fish [1]	10 g/l
EC50 - Crustacea [1]	27 g/l
EC50 72h - Algae [1]	12 – 25.5 g/l
EC50 72h - Algae [2]	12000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC (chronic)	> 500 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

Fluorescent polymer particle suspension	
Persistence and degradability	Rapidly degradable

2-methoxyethanol; ethylene glycol monomethyl ether (109-86-4)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

2-methoxyethanol; ethylene glycol monomethyl ether (109-86-4)	
Partition coefficient n-octanol/water (Log Pow)	-0.77 @ 28 °C/pH 7

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	2-methoxyethanol; ethylene glycol monomethyl ether (109-86-4)

Component	
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	2-methoxyethanol; ethylene glycol monomethyl ether (109-86-4)

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
European List of Waste (LoW, EC 2000/532) : 16 05 06* - laboratory chemicals consisting of or containing dangerous substances including mixtures of laboratory chemicals

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated for transport				
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available.				

14.6. Special precautions for user

Overland transport
Not regulated

Transport by sea
Not regulated

Air transport
Not regulated

Inland waterway transport
Not regulated

Rail transport
Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains substance(s) listed on the REACH Candidate List in concentrations ≥ 0.1 % or SCL: 2-Methoxyethanol (EC 203-713-7, CAS 109-86-4)

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
DNEL	Derived-No Effect Level
PBT	Persistent Bioaccumulative Toxic

Abbreviations and acronyms:	
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative

Other information : DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Full text of H- and EUH-statements:	
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
EUH210	Safety data sheet available on request.
Flam. Liq. 3	Flammable liquids, Category 3
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H360FD	May damage fertility. May damage the unborn child.
Repr. 1B	Reproductive toxicity, Category 1B

Full text of use descriptors	
PC20	Metal surface treatment products
PROC15	Use as laboratory reagent
SU0	Other

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.