

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 15 Sept 2023

Print date: 9 Oct 2023

Version: 4

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Page 1/10

MCF15

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

1.1. Product identifier

Trade name/designation:

MCF15

UFI:

2800-POVS-K00J-TTR2

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

Use of the substance/mixture:

Kühlmittel

Relevant identified uses:

Life cycle stage [LCS]

IS: Use at industrial sites

PW: Widespread use by professional workers

Sector of uses [SU]

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):

MIG-O-MAT Mikrofügetechnik GmbH

Werksstraße 20

57299 Burbach

Telephone: +49 (0) 2736 4154 0

Telefax: +49 (0) 2736 4154 99

E-mail: info@mig-o-mat.com

Website: www.mig-o-mat.com

E-mail (competent person): reach@tuvsud.com

TÜV SÜD Industrie Service GmbH -

Environmental Service REACH -

Westendstraße 199 -

80686 Munich -

Germany

+49 (0) 89 5791 3031

1.4. Emergency telephone number

24h: +49 (0) 89 19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
Acute toxicity (oral) (<i>Acute Tox. 4</i>)	H302: Harmful if swallowed.	Minimum classification.
STOT-repeated exposure (<i>STOT RE 2</i>)	H373: May cause damage to organs through prolonged or repeated exposure.	Minimum classification.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 15 Sept 2023

Print date: 9 Oct 2023

Version: 4

MIG·O·MAT®

Page 2/10

MCF15

2.2. Label elements

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

Hazard pictograms:



GHS08

Health hazard

Signal word: Warning

Hazard components for labelling:

ethane-1,2-diol

Hazard statements for health hazards

H302	Harmful if swallowed.
H373	May cause damage to kidneys through prolonged or repeated exposure if swallowed.

Supplemental hazard information: none

Precautionary statements Prevention

P264	Wash hands thoroughly after handling.
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Precautionary statements Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER.
P314	Get medical advice/attention if you feel unwell.

2.3. Other hazards

Adverse physicochemical effects:

No information available.

Adverse human health effects and symptoms:

No information available.

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no component meets the criteria.

Adverse environmental effects:

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no component meets the criteria.


Other adverse effects:

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No. 1272/2008 [CLP]	Concentration
CAS No.: 7732-18-5 EC No.: 231-791-2	water The substance is classified as not hazardous according to regulation (EC) No. 1272/2008 [CLP].	> 60 - < 75 weight-%
CAS No.: 107-21-1 EC No.: 203-473-3	ethane-1,2-diol Acute Tox. 4 (H302), STOT RE 2 (H373)  Warning	> 25 - < 40 weight-%

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

Remove affected person from the danger area and lay down.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 15 Sept 2023

Print date: 9 Oct 2023

Version: 4

MIG·O·MAT®

Page 3/10

MCF15

Following inhalation:

Provide fresh air.

In case of skin contact:

After contact with skin, wash immediately with plenty of water and soap.

After eye contact:

Rinse immediately carefully and thoroughly with eye-bath or water.

In case of eye irritation consult an ophthalmologist.

Following ingestion:

Do NOT induce vomiting.

Rinse mouth immediately and drink plenty of water.

If swallowed, seek medical advice immediately and show this container or label.

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

No known symptoms to date.

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

No further relevant information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Carbon dioxide (CO₂)

Full water jet

alcohol resistant foam

ABC-powder

Unsuitable extinguishing media:

Strong water jet

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated: Carbon dioxide (CO₂)

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

5.4. Additional information

Co-ordinate fire-fighting measures to the fire surroundings.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:

Remove persons to safety.

Remove all sources of ignition.

For emergency responders

Use personal protection equipment.

6.1.2. For emergency responders

No data available

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For cleaning up:

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Treat the recovered material as prescribed in the section on waste disposal.

Ventilate affected area.

6.4. Reference to other sections

No data available

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 15 Sept 2023

Print date: 9 Oct 2023

Version: 4

MIG·O·MAT®

Page 4/10

MCF15

6.5. Additional information

See protective measures under point 7 and 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

Use only in well-ventilated areas.
Keep out of the reach of children.

Fire prevent measures:

Usual measures for fire prevention.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels:

Keep/Store only in original container.

Hints on storage assembly:

Materials to avoid Oxidising agent
Do not store together with: Food flavouring and nutrient

Storage class (TRGS 510, Germany): 10 - Combustible liquids that cannot be assigned to any of the above storage classes

Further information on storage conditions:

No further relevant information available.

7.3. Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
TRGS 900 (DE)	ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	① 10 ppm (26 mg/m ³) ② 20 ppm (52 mg/m ³) ⑤ (Aerosol und Dampf, kann über die Haut aufgenommen werden) DFG, EU, H, Y, 11
IOELV (EU)	ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m ³) ② 40 ppm (104 mg/m ³) ⑤ (may be absorbed through the skin)

8.1.2. Biological limit values

No data available

8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	35 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
Substance name	PNEC Value	① PNEC type
ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3	10 mg/L	① PNEC aquatic, freshwater

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 15 Sept 2023

Print date: 9 Oct 2023

Version: 4

MIG·O·MAT®

Page 5/10

MCF15

8.2. Exposure controls

8.2.1. Appropriate engineering controls

All work processes must always be designed so that the following is as low as possible:

Eye contact
Skin contact .
Inhalation

If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

8.2.2. Personal protection equipment

Eye/face protection:

Eye protection: not required.

In case of increased risk, additionally
Eye glasses with side protection

Skin protection:

Use protective skin cream before handling the product.

By short-term hand contact : Hand protection is not required.

By long-term hand contact
Wear protective gloves.
Suitable material: NBR (Nitrile rubber)
Thickness of the glove material: 0,4 mm
Breakthrough time:: Permeation: Level ≥ 6

Respiratory protection:

Respiratory protection A
Respiratory protection necessary at: aerosol or mist formation

Other protection measures:

Protective clothing: Only wear fitting, comfortable and clean protective clothing.
General health and safety measures: Take off immediately all contaminated clothing.
Wash hands before breaks and after work.
Avoid contact with skin, eyes and clothes.

8.2.3. Environmental exposure controls

No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid

Colour: colourless

Odour: characteristic

Odour threshold: not determined

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	6 - 8	25 °C	
Melting point	-15 °C		
Freezing point	<i>not determined</i>		
Initial boiling point and boiling range	85 - 100 °C		
Decomposition temperature	<i>not determined</i>		
Flash point	> 100 °C		① estimated
Evaporation rate	<i>not determined</i>		
Auto-ignition temperature	<i>not determined</i>		② von '> 450 °' bis ''
Upper/lower flammability or explosive limits	<i>not applicable</i>		① not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 15 Sept 2023

Print date: 9 Oct 2023

Version: 4

MIG·O·MAT®

Page 6/10

MCF15

Parameter	Value	at °C	① Method ② Remark
Vapour pressure	<i>not determined</i>		① not determined
Vapour density	<i>not determined</i>		
Density	<i>not determined</i>		
Relative density	<i>not determined</i>		
Bulk density	<i>not determined</i>		
Water solubility	<i>not determined</i>		
Partition coefficient: n-octanol/water	-1.36		① Active agent
Dynamic viscosity	5 - 15 mPa·s	20 °C	① estimated
Kinematic viscosity	<i>not determined</i>	40 °C	

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable under storage at normal ambient temperatures.

10.2. Chemical stability

The mixture is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Oxidising agent, strong

Alkali (lye)

10.6. Hazardous decomposition products

Thermal decomposition can lead to the escape of irritating gases and vapours.

SECTION 11: Toxicological information

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

ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3

LD₅₀ oral: =7,712 mg/kg (Rat)

Acute oral toxicity:

Calculation method.

Reference to other sections: 16.3

Acute dermal toxicity:

no classification

Acute inhalation toxicity:

no classification

Skin corrosion/irritation:

non-irritant.

Serious eye damage/irritation:

non-irritant.

Respiratory or skin sensitisation:

not sensitising.

Germ cell mutagenicity:

No experimental indications of in vitro mutagenicity exist.

Carcinogenicity:

Longterm experiments do not indicate carcinogenic effects.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 15 Sept 2023

Print date: 9 Oct 2023

Version: 4

MIG·O·MAT®

Page 7/10

MCF15

Reproductive toxicity:

No evidence for reproductive toxicity in experimental animals.

STOT-single exposure:

no classification

STOT-repeated exposure:

May cause damage to kidneys through prolonged or repeated exposure if swallowed.

Aspiration hazard:

no classification

11.2. Information on other hazards

Endocrine disrupting properties:

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no component meets the criteria.

SECTION 12: Ecological information

12.1. Toxicity

ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3

LC₅₀: =72,860 mg/L 4 d (fish)

Aquatic toxicity:

no classification

Terrestrial toxicity:

not applicable

Effects in sewage plants:

No special measures are necessary.

12.2. Persistence and degradability

ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3

Biodegradation: Yes, rapidly

Additional information:

Further ecological information: Readily biodegradable (according to OECD criteria).

Biodegradation > 90%

12.3. Bioaccumulative potential

ethane-1,2-diol CAS No.: 107-21-1 EC No.: 203-473-3

Log K_{OW}: -1.36

Partition coefficient: n-octanol/water:

-1.36; Method: Active agent

Accumulation / Evaluation:

No indication of bioaccumulation potential.

12.4. Mobility in soil

No adsorption in soil or sediment.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no component meets the criteria.

12.7. Other adverse effects

Chemical oxygen demand (COD): 1245 mg O₂/mg Data apply to the technically active substance.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Consult the appropriate local waste disposal expert about waste disposal.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 15 Sept 2023

Print date: 9 Oct 2023

Version: 4

MIG·O·MAT®

Page 8/10

MCF15

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product

07 07 04 * other organic solvents, washing liquids and mother liquors

*: Evidence for disposal must be provided.

Waste code packaging

07 07 04 * other organic solvents, washing liquids and mother liquors

*: Evidence for disposal must be provided.

Waste treatment options

Appropriate disposal / Package:

Contaminated packages must be completely emptied and can be re-used following proper cleaning.

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN number or ID number			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.2. UN proper shipping name			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.3. Transport hazard class(es)			
not relevant	not relevant	not relevant	not relevant
14.4. Packing group			
not relevant	not relevant	not relevant	not relevant
14.5. Environmental hazards			
not relevant	not relevant	not relevant	not relevant
14.6. Special precautions for user			
not relevant	not relevant	not relevant	not relevant

14.7. Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

15.1.1. EU legislation

Restrictions on use:

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Other regulations (EU):

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]: This product is not assigned to a hazard category.

15.1.2. National regulations

[DE] National regulations

Restrictions of occupation

5 MuSchRiV.

22 JArbSchG.

4 MuSchRiV.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 15 Sept 2023

Print date: 9 Oct 2023

Version: 4

MIG·O·MAT®

Page 9/10

MCF15

Störfallverordnung (12. BImSchV)

for substances contained in the product:

This product is not assigned to a hazard category.

Water hazard class

WGK:

1 - slightly hazardous to water

15.2. Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

16.1. Indication of changes

Editorial changes only

16.2. Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
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
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
COD	Chemical Oxygen Demand
CSB	Chemical Oxygen Demand
DNEL	derived no-effect level
ES	Exposure scenario
EWC	European Waste Catalogue
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
LC ₅₀	Lethal (fatal) Concentration 50%
LD ₅₀	Lethal (fatal) Dose 50%
MAK	Maximum concentration in the workplace air (CH)
NFPA	National Fire Protection Association
PBT	persistent and bioaccumulative and toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation and Authorization of Chemicals
RID	Dangerous goods regulations for transport by rail
SU	use category
TRGS	Technische Regeln für Gefahrstoffe
UN	United Nations

16.3. Key literature references and sources for data

REACH Dissemination Portal

<https://echa.europa.eu/de/information-on-chemicals/registered-substances>

Ethane-1,2-diol EC number: 203-473-3 | CAS number: 107-21-1

Classification, Labelling, and Packaging Regulation (EC) No. 1272/2008

The substance is legally classified for acute toxicity category 4 (H302: "Harmful if swallowed") according to Annex VI CLP Regulation. However, regarding available reliable experimental test data provided in this dossier the substance would not need to be classified for acute toxicity under Regulation (EC) No. 1272/2008, as amended for the fifteenth time in Regulation (EU) No 2020/1182.

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No. 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
Acute toxicity (oral) (<i>Acute Tox. 4</i>)	H302: Harmful if swallowed.	Minimum classification.
STOT-repeated exposure (<i>STOT RE 2</i>)	H373: May cause damage to organs through prolonged or repeated exposure.	Minimum classification.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 15 Sept 2023

Print date: 9 Oct 2023

Version: 4

MIG·O·MAT®

Page 10/10

MCF15

16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H302	Harmful if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.

16.6. Training advice

No data available

16.7. Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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This Safety Data Sheet was drawn up by TÜV SÜD Industrie Service GmbH (see below), based on data from the supplier, who is named in section 1 and who is responsible for this document.

TÜV SÜD Industrie Service GmbH
Department Environmental Service
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80686 Munich - Germany