

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Version: 2.1

Product number: 100426

Revision Date: 21.06.2018

Print Date: 25.06.2018

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Product number 100426 - 89059380

Product name Tivida® FL 2200

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

Identified uses Coating material

**1.3 Details of the supplier of the safety data sheet**

Company Merck KGaA \* 64271 Darmstadt \* Germany \* Phone:+49 6151 72-0  
Responsible Department PM-OQR \* e-mail: PM\_SDS\_Supply@merckgroup.com  
Regional representation Merck Chemicals Ltd \* Boulevard Industrial Park \* Padge Road \*  
Beeston \* Nottingham \* NG9 2JR \* Tel. 01159 430840  
\*information@merckgroup.com.

**1.4 Emergency telephone number**

+49 (0) 6151 722440

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Flammable liquids, Category 3 H226: Flammable liquid and vapour.

Specific target organ toxicity - single exposure, Category 3, Central nervous system H336: May cause drowsiness or dizziness.  
Calculation method

**2.2 Label elements****Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :



Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.  
H336 May cause drowsiness or dizziness.

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Precautionary statements : **Prevention:**  
P210 Keep away from heat.

Hazardous components which must be listed on the label:

1-methoxy-2-propanol

Reduced Labelling (<= 125 ml)

Hazard pictograms



Signal word  
Warning

## 2.3 Other hazards

None known.

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## SECTION 3: Composition/information on ingredients

Chemical nature : Mixture of inorganic and organic compounds

### 3.1 Substance

Not applicable

### 3.2 Mixtures

#### Hazardous components

Chemical name	CAS-No. Registration number	Classification	Concentration (% w/w)
<b>Substances with a workplace exposure limit</b>			
1-methoxy-2-propanol	107-98-2 01-2119457435-35- xxxx	Flam. Liq. 3; H226 STOT SE 3; H336	>= 25 - < 50

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- If inhaled : fresh air. Call in physician.
- In case of skin contact : Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- In case of eye contact : rinse out with plenty of water.  
Remove contact lenses.
- If swallowed : immediately make victim drink water (two glasses at most).  
Consult a physician.

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

Symptoms : somnolence  
Drowsiness  
  
Nausea  
Vomiting  
CNS disorders  
narcosis

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

Treatment : No information available.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry powder

Unsuitable extinguishing media : For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Combustible.

Vapours are heavier than air and may spread along floors.  
Forms explosive mixtures with air at elevated temperatures.  
Development of hazardous combustion gases or vapours possible in the event of fire.

Fire may cause evolution of:  
Sulphur oxides  
Hydrogen fluoride

### 5.3 Advice for firefighters

Special protective equipment for firefighters : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information : Cool closed containers exposed to fire with water spray.  
Suppress (knock down) gases/vapours/mists with a water spray jet.  
Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Advice for non-emergency personnel:  
Do not breathe vapours, aerosols.  
Avoid substance contact.  
Ensure adequate ventilation.  
Keep away from heat and sources of ignition.  
Evacuate the danger area, observe emergency procedures, consult an expert.  
Advice for emergency responders:  
Protective equipment see section 8.

### 6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.  
Risk of explosion.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Cover drains. Collect, bind, and pump off spills.  
Observe possible material restrictions (see sections 7 and 10).  
Take up with liquid-absorbent material (e.g. Chemisorb®).  
Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.  
Do not inhale substance/mixture.  
Avoid generation of vapours/aerosols.

Observe label precautions.

Advice on protection against fire and explosion : Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures : Change contaminated clothing. Wash hands after working with substance.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container.

Further information on storage conditions : Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

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Protected from light.

Risks from decomposition products: see section 10.3

Recommended storage temperature : Recommended storage temperature see product label.

## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
1-methoxy-2-propanol	107-98-2	TWA	100 ppm 375 mg/m <sup>3</sup>	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
	107-98-2	STEL	150 ppm 568 mg/m <sup>3</sup>	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
	107-98-2	TWA	100 ppm 375 mg/m <sup>3</sup>	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
	107-98-2	STEL	150 ppm 560 mg/m <sup>3</sup>	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			

### 8.2 Exposure controls

#### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

#### Personal protective equipment

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled and must meet the specifications of a standard EN/ISO/DIN. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye protection : Safety glasses

Hand protection :  
splash contact

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Glove material : butyl-rubber

Glove thickness : 0.7 mm

Break through time : 10 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example:KCL 898 Butoject®(splash contact);.

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Protective measures : Flame retardant antistatic protective clothing.

Respiratory protection : required when vapours/aerosols are generated.

Recommended Filter type: : ABEK-filter

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

## Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.  
Risk of explosion.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless to yellow
Odour	characteristic
Odour Threshold	No information available.
pH	4.0 - 7.0 at 20 °C
Melting point	No information available.
Boiling point	No information available.
Flash point	31 °C Test Type: closed cup (solvent)

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Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	1.5 %(V) (solvent)
Upper explosion limit	13.7 %(V) (solvent)
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	No information available.
Solubility(ies)	No information available.
Water solubility	No information available.
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, kinematic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

Ignition temperature	287 °C Method: DIN 51794 (solvent)
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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Vapour/air-mixtures are explosive at intense warming.  
Formation of peroxides possible.

### 10.2 Chemical stability

Sensitive to air.  
Sensitivity to light

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Generates dangerous gases or fumes in contact with:  
hydrides

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(generation of hydrogen)

Violent reactions possible with:  
Strong oxidizing agents  
acid halides  
Acid anhydrides  
Acid chlorides

## 10.4 Conditions to avoid

Conditions to avoid : Heating.

## 10.5 Incompatible materials

Materials to avoid : no information available

## 10.6 Hazardous decomposition products

in the event of fire: See section 5.  
Peroxides

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Product:

Acute oral toxicity : No data available  
Acute inhalation toxicity : LC50 (Rat, male and female): > 5.5 mg/l  
Exposure time: 4 h  
Test atmosphere: aerosol  
Method: OECD Test Guideline 403  
Remarks: Information given is based on tests on the mixture itself.

Acute dermal toxicity : No data available

##### Components:

#### **1-methoxy-2-propanol:**

Acute oral toxicity : LD50 Oral (Rat, male): 3,739 mg/kg  
Method: EC Directive 92/69/EEC B.1 Acute Toxicity (Oral)

Acute inhalation toxicity : LC50 (Rat): 32 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): 13,000 mg/kg  
Remarks: (OECD SIDS)



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## Skin corrosion/irritation

### Product:

No data available

### Components:

#### **1-methoxy-2-propanol:**

Species: Rabbit

Exposure time: 4 h

Method: Regulation (EC) No. 440/2008, Annex, B.4

Result: No irritation

Remarks: (ECHA)

## Serious eye damage/eye irritation

### Product:

No data available

### Components:

#### **1-methoxy-2-propanol:**

Species: Rabbit

Method: Regulation (EC) No. 440/2008, Annex, B.5

Result: No eye irritation

Remarks: (ECHA)

## Respiratory or skin sensitisation

### Product:

No data available

### Components:

#### **1-methoxy-2-propanol:**

Test Type: Sensitisation test:

Species: Guinea pig

Result: negative

Remarks: (IUCLID)

## Germ cell mutagenicity

### Product:

No data available

### Components:

#### **1-methoxy-2-propanol:**

Genotoxicity in vitro

: Test Type: gene mutation test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Remarks: (ECHA)

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Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse (male and female)  
Application Route: intratracheal  
Method: OECD Test Guideline 474  
Result: negative

## Carcinogenicity

### Product:

This information is not available.

### Components:

This information is not available.

## STOT - single exposure

### Product:

No data available

### Components:

#### 1-methoxy-2-propanol:

Exposure routes: Inhalation

Target Organs: Central nervous system

Assessment: May cause drowsiness or dizziness.

Remarks: (OECD SIDS)

## STOT - repeated exposure

### Product:

No data available

### Components:

No data available

## Repeated dose toxicity

### Product:

No data available

### Components:

No data available

## Aspiration toxicity

### Product:

No data available

### Components:

No data available

## 11.2 Other information

### Product:

The following information relates to the toxicologically determinant component of the mixture:

After absorption of toxic quantities:

Nausea

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Vomiting  
CNS disorders  
narcosis  
Toxic effect on:  
Liver  
Kidney  
Other dangerous properties can not be excluded.  
Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12: Ecological information

### 12.1 Toxicity

**Product:**

No data available

**Components:**

**1-methoxy-2-propanol:**

- Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 4,600 - 10,000 mg/l  
Exposure time: 96 h  
Test Type: static test  
Method: DIN 38412  
Remarks: (ECHA)
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l  
Exposure time: 48 h  
Method: Regulation (EC) No. 440/2008, Annex, C.2  
Remarks: (ECHA)
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l  
Exposure time: 96 h  
Test Type: static test  
Remarks: (ECHA)
- Toxicity to microorganisms : IC50 (activated sludge): > 1,000 mg/l  
Exposure time: 3 h  
Test Type: static test  
Method: OECD Test Guideline 209  
Remarks: (ECHA)

### 12.2 Persistence and degradability

**Product:**

No data available

**Components:**

**1-methoxy-2-propanol:**

- Biodegradability : Result: Readily biodegradable.  
Biodegradation: ca. 90 %  
Exposure time: 29 d

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Method: OECD Test Guideline 301E

## 12.3 Bioaccumulative potential

### Product:

No data available

### Components:

#### **1-methoxy-2-propanol:**

Partition coefficient: n-octanol/water : log Pow: -0.5 (25 °C)  
Method: EPI Suite™  
Remarks: Bioaccumulation is not expected.  
(External SDS)

## 12.4 Mobility in soil

### Product:

No data available

### Components:

#### **1-methoxy-2-propanol:**

No data available

## 12.5 Results of PBT and vPvB assessment

### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

### Components:

#### **1-methoxy-2-propanol:**

Assessment : Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII..

## 12.6 Other adverse effects

### Product:

Additional ecological information : Discharge into the environment must be avoided.

### Components:

#### **1-methoxy-2-propanol:**

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Notice Directive on waste 2008/98/EC.

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

### Air transport(IATA)

14.1. UN/ID No. : UN 3092  
14.2. Proper shipping name : 1-Methoxy-2-propanol solution  
14.3. Class : 3  
14.4. Packing group : III  
14.5 Environmentally hazardous : --  
14.6 Special precautions for user : no

### Sea transport(IMDG)

14.1. UN number : UN 3092  
14.2. Proper shipping name : 1-METHOXY-2-PROPANOL SOLUTION  
14.3. Class : 3  
14.4. Packing group : III  
14.5 Environmentally hazardous : --  
14.6 Special precautions for user : yes  
EmS Code : F-E, S-D

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  
Not relevant

### Land transport(ADR/RID)

14.1. UN number : UN 3092  
14.2. Proper shipping name : 1-METHOXY-2-PROPANOL SOLUTION  
14.3. Class : 3  
14.4. Packing group : III  
14.5 Environmentally hazardous : --

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## SECTION 15: Regulatory information

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

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

P5c	FLAMMABLE LIQUIDS	Quantity 1 5,000 t	Quantity 2 50,000 t
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Storage class : 3

Other regulations : Take note of Dir 94/33/EC on the protection of young people at work.

### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

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## SECTION 16: Other information

### Training advice

Provide adequate information, instruction and training for operators.

### Full text of H-Statements

H226 : Flammable liquid and vapour.

H336 : May cause drowsiness or dizziness.

### Key or legend to abbreviations and acronyms used in the safety data sheet

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AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

## Disclaimer

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.