

## Safety Data Sheet

according to UK REACH Regulation

### AEC Solution

Revision date: 26.04.2022

Product code: SB-0005

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

### 1.1. Product identifier

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

#### Use of the substance/mixture

The product is intended for professional use.

### 1.3. Details of the supplier of the safety data sheet

Company name:	ZytoVision GmbH	
Street:	Fischkai 1	
Place:	D-27572 Bremerhaven	
Telephone:	+49 (0) 471/4832-300	Telefax: +49 (0) 471/4832-509
e-mail:	info@zytovision.com	
Internet:	www.zytovision.com	

**1.4. Emergency telephone number:** +49 (0) 471/4832-300  
9am - 5pm (CET)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### GB CLP Regulation

Flam. Liq. 3; H226  
Acute Tox. 4; H332  
Eye Irrit. 2; H319  
Repr. 1B; H360D

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

#### GB CLP Regulation

#### Hazard components for labelling

N,N-dimethylformamide, dimethyl formamide

**Signal word:** Danger

**Pictograms:**



#### Hazard statements

H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H360D	May damage the unborn child.

#### Precautionary statements

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.

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P403+P235 Store in a well-ventilated place. Keep cool.

#### Special labelling of certain mixtures

Restricted to professional users.

Restricted to professional users.

#### Labelling of packages where the contents do not exceed 125 ml

Signal word:

Danger

Pictograms:



#### Hazard statements

H360D

#### Precautionary statements

P201-P280-P308+P313

#### 2.3. Other hazards

No information available.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
68-12-2	N,N-dimethylformamide, dimethyl formamide			20 - < 40 %
	200-679-5	616-001-00-X	01-2119475605-32	
	Flam. Liq. 3, Repr. 1B, Acute Tox. 4, Acute Tox. 4, Eye Irrit. 2; H226 H360D H332 H312 H319			

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

##### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
68-12-2	200-679-5	N,N-dimethylformamide, dimethyl formamide	20 - < 40 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: LC50 = 9-15 mg/l (dusts or mists); dermal: LD50 = 1500 mg/kg; oral: LD50 = 3010 mg/kg		

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

##### After contact with skin

Wash with plenty of water. Immediately remove any contaminated clothing, shoes or stockings. Medical treatment necessary.

##### After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

##### After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

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

No information available.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Water spray jet, Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder.

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

Flammable. Vapours can form explosive mixtures with air.

#### **5.3. Advice for firefighters**

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

#### **Additional information**

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

### SECTION 6: Accidental release measures

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

##### **General advice**

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

#### **6.2. Environmental precautions**

Do not allow uncontrolled discharge of product into the environment. Explosion risk.

#### **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.

#### **6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

### SECTION 7: Handling and storage

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

##### **Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

##### **Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

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

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#### Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

#### Hints on joint storage

Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances.

#### Further information on storage conditions

Store, tightly closed, in the original vessel at conditions indicated on the label.

#### 7.3. Specific end use(s)

The product is intended for professional use.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
7722-84-1	Hydrogen peroxide	1	1.4		TWA (8 h)	WEL
		2	2.8		STEL (15 min)	WEL
68-12-2	N,N-Dimethylformamide	5	15		TWA (8 h)	WEL
		10	30		STEL (15 min)	WEL

##### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
68-12-2	N,N-dimethylformamide, dimethyl formamide			
Worker DNEL, acute		dermal	systemic	26,3 mg/kg bw/day
Worker DNEL, acute		inhalation	systemic	30 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	3,31 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	15 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	local	15 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	30 mg/m <sup>3</sup>
7722-84-1	Hydrogen peroxide solution ... %			
Worker DNEL, acute		inhalation	local	3 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	systemic	1,4 mg/m <sup>3</sup>

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#### PNEC values

CAS No	Substance	Value
Environmental compartment		
68-12-2	N,N-dimethylformamide, dimethyl formamide	
Freshwater		30 mg/l
Marine water		3 mg/l
Freshwater sediment		25,05 mg/kg
Soil		16,235 mg/kg
7722-84-1	Hydrogen peroxide solution ... %	
Freshwater		0,013 mg/l
Freshwater (intermittent releases)		0,0138 mg/l
Marine water		0,013 mg/l
Freshwater sediment		0,047 mg/kg
Marine sediment		0,047 mg/kg
Micro-organisms in sewage treatment plants (STP)		4,66 mg/l
Soil		0,002 mg/kg

#### 8.2. Exposure controls

##### Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

##### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Suitable eye protection: goggles.

##### Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

##### Skin protection

Use of protective clothing.

##### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state: liquid  
 Colour: yellow  
 Odour: characteristic

##### Changes in the physical state

Melting point/freezing point: not determined  
 Boiling point or initial boiling point and boiling range: not determined  
 Flash point: not determined

##### Flammability

Solid/liquid: not applicable

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Gas: not applicable

#### Explosive properties

The product is not: Explosive.

Lower explosion limits: not determined

Upper explosion limits: not determined

Auto-ignition temperature: not determined

Decomposition temperature: not determined

pH-Value: not determined

Water solubility: easily soluble

#### Solubility in other solvents

not determined

Partition coefficient n-octanol/water: not determined

Vapour pressure: not determined

Density: not determined

Relative vapour density: not determined

#### 9.2. Other information

##### Information with regard to physical hazard classes

Oxidizing properties

The product is not: oxidising.

##### Other safety characteristics

Solid content: not determined

Evaporation rate: not determined

##### Further Information

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Flammable.

#### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

#### 10.3. Possibility of hazardous reactions

No known hazardous reactions.

#### 10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

#### 10.5. Incompatible materials

No information available.

#### 10.6. Hazardous decomposition products

No known hazardous decomposition products.

### SECTION 11: Toxicological information

#### 11.1. Information on hazard classes as defined in GB CLP Regulation

##### Acute toxicity

Harmful if inhaled.

##### ATEmix calculated

ATE (inhalation dust/mist) 5,000 mg/l

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
68-12-2	N,N-dimethylformamide, dimethyl formamide				
	oral	LD50 mg/kg	3010	Rat	
	dermal	LD50 mg/kg	1500	Rabbit	
	inhalation vapour	ATE	11 mg/l		
	inhalation (4 h) dust/mist	LC50	9-15 mg/l	Rat	

#### Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

#### Sensitising effects

Based on available data, the classification criteria are not met.

#### Carcinogenic/mutagenic/toxic effects for reproduction

May damage the unborn child. (N,N-dimethylformamide, dimethyl formamide)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

#### STOT-single exposure

Based on available data, the classification criteria are not met.

#### STOT-repeated exposure

Based on available data, the classification criteria are not met.

#### Aspiration hazard

Based on available data, the classification criteria are not met.

#### Further information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. Special hazards arising from the substance or mixture!

### SECTION 12: Ecological information

#### 12.1. Toxicity

The product is not: Ecotoxic.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
68-12-2	N,N-dimethylformamide, dimethyl formamide					
	Acute fish toxicity	LC50 mg/l	7100	96 h fish		
	Acute algae toxicity	ErC50 mg/l	>1000	96 h Desmodesmus subspicatus		
	Acute crustacea toxicity	EC50 mg/l	13100	48 h Daphnia magna		

#### 12.2. Persistence and degradability

The product has not been tested.

#### 12.3. Bioaccumulative potential

The product has not been tested.

#### 12.4. Mobility in soil

The product has not been tested.

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#### **12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.  
The product has not been tested.

#### **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 components meets the criteria.

#### **12.7. Other adverse effects**

No information available.

#### **Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

### SECTION 13: Disposal considerations

#### **13.1. Waste treatment methods**

##### **Disposal recommendations**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

##### **Contaminated packaging**

Hazardous waste according to Directive 2008/98/EC (waste framework directive). Handle contaminated packages in the same way as the substance itself.

### SECTION 14: Transport information

#### **Land transport (ADR/RID)**

<b><u>14.1. UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.2. UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.3. Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.4. Packing group:</u></b>	No dangerous good in sense of this transport regulation.

#### **Inland waterways transport (ADN)**

<b><u>14.1. UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.2. UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.3. Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.4. Packing group:</u></b>	No dangerous good in sense of this transport regulation.

#### **Marine transport (IMDG)**

<b><u>14.1. UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.2. UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.3. Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.4. Packing group:</u></b>	No dangerous good in sense of this transport regulation.

#### **Air transport (ICAO-TI/IATA-DGR)**

<b><u>14.1. UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.2. UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.3. Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>14.4. Packing group:</u></b>	No dangerous good in sense of this transport regulation.

#### **14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

#### **14.6. Special precautions for user**

No dangerous good in sense of this transport regulation.

#### **14.7. Maritime transport in bulk according to IMO instruments**

No dangerous good in sense of this transport regulation.



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## SECTION 15: Regulatory information

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

#### EU regulatory information

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):  
N,N-dimethylformamide, dimethyl formamide

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 72, Entry 75

Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

#### National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D):

2 - obviously hazardous to water

### 15.2. Chemical safety assessment

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

## SECTION 16: Other information

### Changes

This data sheet contains changes from the previous version in section(s): 2,4,5,6,7,8,9,10,11,12,13,14,15,16.

### Abbreviations and acronyms

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

CAS: Chemical Abstracts Service

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Regulations concerning the international carriage of dangerous goods by rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)

IMDG: International Maritime Code for Dangerous Goods

EmS: Emergency Schedules

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MFAG: Medical First Aid Guide

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

#### Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Flam. Liq. 3; H226	On basis of test data
Acute Tox. 4; H332	Calculation method
Eye Irrit. 2; H319	Calculation method
Repr. 1B; H360D	Calculation method

#### Relevant H and EUH statements (number and full text)

H226	Flammable liquid and vapour.
H312	Harmful in contact with skin.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H360D	May damage the unborn child.

#### Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. 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.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*