

SAFETY DATA SHEET

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

Revision date: 8 May 2024

Print date: 8 May 2024

Version: 1.4



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PanTum Detect

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

1.1 Product identifier

Trade name/designation:

PanTum Detect

Additional information:

The kit consists of the following components:

Surface Antibodies:

CD14-PerCP, 1 ml

CD16-APC, 1 ml

Intracellular Antibodies:

Apo10-FITC, 1 ml

TKTL1-PE, 1 ml

Reagents and Solutions:

Fixation Reagent (Solution 1), 11 mL

Permeabilization and Lysis Reagent (Solution 2), 11 mL

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

Use of the substance/mixture:

Cell biology reagents.

For professional use only.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Zyagnum AG

Gräfenhäuser Str. 26

64293 Darmstadt

GERMANY

Telephone: +49 (0) 6151 365 31 0

Telefax: +49 (0) 6151 365 31 10

E-mail: info@zyagnum.com

Website: <http://www.zyagnum.com/>

E-mail (competent person): info@zyagnum.com

1.4 Emergency phone number

24h: +49 (0) 551 19240 (german and english)

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
Respiratory or skin sensitisation (<i>Skin Sens. 1</i>)	H317: May cause an allergic skin reaction.	Calculation
Germ cell mutagenicity (<i>Muta. 2</i>)	H341: Suspected of causing genetic defects.	Calculation
Carcinogenicity (<i>Carc. 1B</i>)	H350: May cause cancer.	Calculation

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2.2 Label elements

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

Hazard pictograms:



GHS07

Exclamation mark



GHS08

Health hazard

Signal word: Danger

Hazard components for labelling:
formaldehyde; methanol

Hazard statements for health hazards	
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
Precautionary statements - Prevention	
P280	Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statements - Response	
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P308+P313	IF exposed or concerned: Get medical advice/attention.

2.3 Other hazards

Adverse environmental effects:

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description:

Phosphate buffered saline (PBS) and additives

Ingredients:

Product identifiers	Substance name Classification according to Regulation (EC) No. 1272/2008 [CLP]	Content
CAS No.: 8047-15-2 EC No.: 232-462-6 REACH No.: 01-2120078922-48	Saponins Eye Irrit. 2 (H319), STOT SE 3 (H335) Warning	≤ 10 weight-%
CAS No.: 50-00-0 EC No.: 200-001-8 Index No.: 605-001-00-5 REACH No.: 01-2119513723-45	formaldehyde Acute Tox. 3 (H331, H311, H301), Carc. 1B (H350), Muta. 2 (H341), Skin Corr. 1B (H314), Skin Sens. 1 (H317) Danger Specific concentration limit (SCL) Skin Corr. 1B; H314: C ≥ 25% Skin Irrit. 2; H315: 5% ≤ C < 25% Eye Dam. 1; H318: C ≥ 25% Eye Irrit. 2; H319: 5% ≤ C < 25% STOT SE 3; H335: C ≥ 5% Skin Sens. 1; H317: C ≥ 0.2%	> 1 - ≤ 5 weight-%

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Product identifiers	Substance name Classification according to Regulation (EC) No. 1272/2008 [CLP]	Content
CAS No.: 67-56-1 EC No.: 200-659-6 Index No.: 603-001-00-X REACH No.: 01-2119433307-44	methanol Acute Tox. 3 (H331, H311, H301), Flam. Liq. 2 (H225), STOT SE 1 (H370**) Danger Specific concentration limit (SCL) STOT SE 1; H370: C ≥ 10% STOT SE 2; H371: 3% ≤ C < 10%	0.8 - 1.8 weight-%
CAS No.: 26628-22-8 EC No.: 247-852-1 Index No.: 011-004-00-7 REACH No.: 01-2119457019-37	sodium azide Acute Tox. 2 (H300), Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410) Danger EUH032	< 0.09 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:

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove victim out of the danger area. If unconscious but breathing normally, place in recovery position and seek medical advice. Do not leave affected person unattended.

Following inhalation:

Provide fresh air. Get medical help if you feel unwell.

In case of skin contact:

Wash with plenty of water. If skin irritation or rash occurs: Get medical help.

After eye contact:

In case of contact with eyes, rinse thoroughly with water. In case of eye irritation consult an ophthalmologist.

Following ingestion:

If swallowed, rinse mouth with water (only if the person is conscious). Get medical advice/attention if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

May cause an allergic skin reaction. Suspected of causing genetic defects. May cause cancer.

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, alcohol resistant foam, extinguishing powder, carbon dioxide (CO₂).
Coordinate fire-fighting measures to the fire surroundings.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products:

In case of fire may be liberated: Gases/vapours, toxic

5.3 Advice for firefighters

Use suitable breathing apparatus. Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Personal precautions:

Avoid contact with skin, eyes and clothes. Safe handling: see section 7.

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Protective equipment:

Wear protective gloves/protective clothing/eye protection/face protection. Personal protection equipment: see section 8.

6.1.2 For emergency responders

Personal protection equipment:

Personal protection equipment: see section 8.

6.2 Environmental precautions

Do not allow to enter into surface water or drains.

Do not allow to enter into soil/subsoil.

6.3 Methods and material for containment and cleaning up

For containment:

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

For cleaning up:

Water (with cleaning agent)

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

Protective measures

Advices on safe handling:

Avoid contact with skin, eyes and clothes. Keep container tightly closed. In case of leakage: Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Remove contaminated, saturated clothing. Wash contaminated clothing prior to re-use. Wear personal protection equipment (refer to section 8).

Environmental precautions:

Discharge into the environment must be avoided.

Advices on general occupational hygiene

When using do not eat, drink or smoke. Wash hands before breaks and after work. Take off contaminated clothing and wash it before reuse. Apply skin care products after work.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Store in a closed container. Keep in a cool place. Protect from direct sunlight.

Requirements for storage rooms and vessels:

Keep only in the original container.

Hints on storage assembly:

Keep away from food, drink and animal feedingstuffs.

7.3 Specific end use(s)

Recommendation:

Cell biology reagents.

Observe instructions for use.

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SECTION 8: Exposure controls / Personal protection

8.1 Control Parameters

8.1.1 Occupational exposure limit values

Limit value type (country)	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
WEL (GB)	formaldehyde CAS No.: 50-00-0 EC No.: 200-001-8	① 2 ppm (2.5 mg/m ³) ② 2 ppm (2.5 mg/m ³)
BOELV (EU)	formaldehyde CAS No.: 50-00-0 EC No.: 200-001-8	① 0.3 ppm (0.37 mg/m ³) ② 0.6 ppm (0.74 mg/m ³)
IOELV (EU)	methanol CAS No.: 67-56-1 EC No.: 200-659-6	① 200 ppm (260 mg/m ³) ⑤ (may be absorbed through the skin)
WEL (GB)	methanol CAS No.: 67-56-1 EC No.: 200-659-6	① 200 ppm (266 mg/m ³) ② 250 ppm (333 mg/m ³) ⑤ (may be absorbed through the skin)
WEL (GB)	sodium azide CAS No.: 26628-22-8 EC No.: 247-852-1	① 0.1 mg/m ³ ② 0.3 mg/m ³ ⑤ (may be absorbed through the skin)
IOELV (EU)	sodium azide CAS No.: 26628-22-8 EC No.: 247-852-1	① 0.1 mg/m ³ ② 0.3 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

No data available.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. Provide adequate ventilation as well as local exhaust at critical locations.

8.2.2 Personal protection equipment



Eye/face protection:

Eye glasses with side protection (EN 166)

Skin protection:

Wear suitable gloves (EN ISO 374).

Suitable material: NBR (Nitrile rubber)

Thickness of the glove material: $\geq 0,11$ mm

Breakthrough time: ≥ 480 min

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. The exact breakthrough time must be requested from the protective glove manufacturer and must be observed. Check leak tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well.

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Respiratory protection:

Usually no personal respiratory protection necessary. Provide adequate ventilation. Wear breathing apparatus if exposed to vapours/dusts/aerosols. Combination filtering device, Filter type A-P2/P3

Other protection measures:

Wear suitable protective clothing (EN 340).

8.2.3 Environmental exposure controls

Do not empty into drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state: liquid, clear

Colour: colourless - light yellow

Odour: not determined

Safety relevant basic data

Parameter	Value	at	① Method ② Remark
pH	7 - 8	20 °C	
Melting point	≈ 0 °C		
Freezing point	not determined		
Initial boiling point and boiling range	≥ 100 °C		
Decomposition temperature	not determined		
Flash point	not applicable		
Evaporation rate	not applicable		
Auto-ignition temperature	not determined		
Upper/lower flammability or explosive limits	not determined		
Vapour pressure	23 hPa	20 °C	
Vapour density	not applicable		
Density	not determined		
Relative density	not determined		
Bulk density	not determined		
Water solubility	easily soluble		
Partition coefficient: n-octanol/water, log P (o/w)	not determined		
Dynamic viscosity	not applicable		
Kinematic viscosity	not applicable		

9.2 Other information

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4 Conditions to avoid

Heat, Light.

10.5 Incompatible materials

Oxidising agent, Acids.

10.6 Hazardous decomposition products

No known hazardous decomposition products.

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In case of fire may be liberated: Gases/vapours, toxic

SECTION 11: Toxicological information

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

formaldehyde	CAS No.: 50-00-0	EC No.: 200-001-8
LD₅₀ oral: 100 mg/kg (Rat) OECD 401		
LD₅₀ dermal: 270 mg/kg (Rabbit)		
LC₅₀ Acute inhalation toxicity (dust/mist): 0.578 mg/L 4 h (Rat)		
methanol	CAS No.: 67-56-1	EC No.: 200-659-6
LD₅₀ oral: 5.628 mg/kg (Rat)		
LD₅₀ dermal: 15,800 mg/kg (Rabbit)		
LC₅₀ Acute inhalation toxicity (vapour): 83.9 mg/L 4 h (Rat)		

Acute oral toxicity:
Based on available data, the classification criteria are not met.

Acute dermal toxicity:
Based on available data, the classification criteria are not met.

Acute inhalation toxicity:
Based on available data, the classification criteria are not met.

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

Serious eye damage/irritation:
Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation:
May cause an allergic skin reaction.

Germ cell mutagenicity:
Suspected of causing genetic defects.

Carcinogenicity:
May cause cancer.

Reproductive toxicity:
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.

Additional information:
Methanol:
TCLo: 143 mg/kg (oral, men)
LDLo: 300 ppm (inhalative, men)

Product:
ATEmix, oral: > 2000 mg/kg
ATEmix, dermal: > 2000 mg/kg

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 components meets the criteria.

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SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

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

12.2 Persistence and degradability

Biodegradation:

No data available.

12.3 Bioaccumulative potential

Accumulation / Evaluation:

No indication of bioaccumulation potential.

12.4 Mobility in soil

No data available.

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 components meets the criteria.

12.7 Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment options

Appropriate disposal / Product:

Dispose of waste according to applicable legislation. Consult the appropriate local waste disposal expert about waste disposal.

Appropriate disposal / Package:

Completely emptied packages can be recycled.

Other disposal recommendations:

The allocation of waste code numbers / waste names must be carried out in accordance with the European Waste Catalogue (EWC). Do not allow to enter into surface water or drains. Collect in closed and suitable containers for disposal. Waste for disposal is to be classified and labelled.

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

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Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI-/IATA-DGR)
14.6 Special precautions for user			
not relevant	not relevant	not relevant	not relevant

14.7 Maritime transport in bulk according to IMO instruments

not relevant

SECTION 15: Regulatory information

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

15.1.1 EU legislation

Authorisations:

Contains no substances listed in REACH Annex XIV.

Restrictions on use:

Use restriction according to REACH annex XVII, no.: 3, 28, 72, 75 (Formaldehyde) and 40, 69 (Methanol)

Other regulations (EU):

Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

The product does not contain substances of very high concern (SVHC) $\geq 0,1$ %.

15.1.2 National regulations

No data available.

15.2 Chemical Safety Assessment

No data available.

SECTION 16: Other information

16.1 Indication of changes

Changes executed in version 1.1:

Section 1: Additional information

General revision

Changes executed in version 1.2:

Section 1: Trade name/designation,

Section 11: Toxicological Information

Section 12: Ecological Information (non-mandatory)

Section 15: Regulatory Information (non-mandatory)

General revision

Changes executed in version 1.3:

Section 3: Composition/Information on Ingredients

Section 7: Handling and Storage

Section 11: Toxicological Information

Section 15: Regulatory Information (non-mandatory)

Section 16: Abbreviations and acronyms

General revision

Changes executed in version 1.4:

Section 2. classification and Label elements

Section 3: Composition/Information on Ingredients

Section 4: First-Aid Measures

Section 8: Exposure Controls/Personal Protection

Section 11: Toxicological Information

General revision

16.2 Abbreviations and acronyms

ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure

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ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route

ATE = acute toxicity estimate

CAS = Chemical Abstracts Service

CLP = Classification, Labelling and Packaging

DMEL = Derived Minimum Effect Level

DNEL = Derived No Effect Level

EC₅₀ = Median effective concentration

ECB = European Chemicals Bureau

EEC = European Economic Community

EINECS = European Inventory of Existing Commercial Chemical Substances

ELINCS = European List of Notified Chemical Substances

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

IC₅₀ = Inhibition concentration, 50%

IMDG = International Maritime Code for Dangerous Goods

IUCLID = International Uniform Chemical Information Database

LC₅₀ = Lethal concentration, 50%

LD₅₀ = Median lethal dose

LC0 = lethal concentration, 0%

LOAEL = lowest-observed-adverse-effect level

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

NOAEL = No Observed Adverse Effect Level

NOEC = No Observed Effect Content

PBT = Persistent, Bioaccumulative and Toxic substance

PNEC = Predicted No-Effect Content

RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses

REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals

STP = Sewage Treatment Plant

TLV®/TWA = Threshold limit value - time-weighted average

TLV®STEL = Threshold limit value - short-time exposure limit

VOC = Volatile Organic Compounds

vPvB = very Persistent and very Bioaccumulative

16.3 Key literature references and sources for data

European Chemicals Agency (ECHA): <https://www.echa.europa.eu>

ECHA, C&L Inventory: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database>

ECHA, Registered substances: <https://echa.europa.eu/information-on-chemicals/registered-substances>

GESTIS, Information system on hazardous substances: <https://www.gestis.dguv.de/search>

GESTIS, International Limit Values: <https://limitvalue.ifa.dguv.de>

Hörsch Gefährliche Stoffe und Gemische, 8. Auflage, Dr. Angela Schulz

Safety data sheets of the manufacturers

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

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Respiratory or skin sensitisation (<i>Skin Sens. 1</i>)	H317: May cause an allergic skin reaction.	Calculation
Germ cell mutagenicity (<i>Muta. 2</i>)	H341: Suspected of causing genetic defects.	Calculation
Carcinogenicity (<i>Carc. 1B</i>)	H350: May cause cancer.	Calculation

16.5 Relevant H- and EUH-phrases

Hazard statements	
H225	Highly flammable liquid and vapour.
H300	Fatal if swallowed.
H301	Toxic if swallowed.

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Hazard statements	
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H370	Causes damage to organs.
H371	May cause damage to organs.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
Supplemental hazard information	
EUH032	Contact with acids liberates very toxic gas.

16.6 Training advice

No data available.

16.7 Additional information

The information in this safety data sheet has been established to our best knowledge and was up-to-date at time of revision. The information is intended to give you advice about the safe handling of the product for storage, processing, transport and disposal. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.