

Reviewed on: 2008 04 08 Version: 3.0

1. Identification of substance/preparation and of the company/undertaking

Product: ZytoFast CISH RNA Kits II
Product number: T-1005
Application: For laboratory use only
Manufacturer: ZytoVision GmbH
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2. Hazards identification

Hazard(s) statement(s):

Please observe the safety information on this safety data sheet.

Irritating to eyes and skin. (Tris Base; Vessel 1,7)

May cause harm to the unborn child. Harmful by inhalation and in contact with skin. Irritating to eyes. (Prop. comp. C; Vessel 5)

Information pertaining to special dangers for human and environment:

All chemicals are potentially dangerous. They should only be handled by specially trained personnel.

Use standard safety procedures for handling chemicals. Avoid exposure. Obtain special instructions before use.

3. Composition / information on ingredients

System components:

Component number	Description of the preparation
Vessel 1	Pepsin-Solution
Vessel 2	ZytoFast RNA Probes
Vessel 3	AP-anti-Biotin
Vessel 4	HRP-anti-Digoxigenin
Vessel 5	HRP-Substrate
Vessel 6	AP-Substrate
Vessel 7	20x Wash Buffer

Hazardous ingredients:

Chemical name	CAS-no.	EC-no.	Classification	Contained in preparation	Concentration
2-Amino-2-(hydroxymethyl)-1,3-propanediol (Tris Base)	77-86-1	201-064-4	Irritant	Pepsin Solution (Vessel 1), 20x Wash Buffer (Vessel 7)	<7.5%
Proprietary component C	-	-	Toxic	HRP-Substrate (Vessel 5)	-

The statements are derived from products of similar structure or composition and/or the statements are derived from the properties of the single components.

Additional information:

- / -

4. First aid measures

General information:

Immediately remove any clothing soiled by the product. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet, if possible).
No induce of vomiting by a layman. (Tris Base; Vessel 1,7)

After inhalation:

Provide fresh air. In case of respiratory tract irritation, consult a physician.
To be sure, call for a doctor. (Tris Base; Vessel 1,7)
Remove to fresh air. If breathing is difficult, give oxygen. Administer artificial respiration if breathing has stopped. Seek medical advice. (Propr. comp. C; Vessel 5)

After eye contact:

In case of contact with eyes, rinse immediately thoroughly with plenty of water and consult an ophthalmologist.

After swallowing:

Rinse mouth immediately and drink plenty of water.
Call for a doctor immediately. (Tris Base; Vessel 1,7)
Do not induce vomiting. Call for a doctor immediately. (Propr. comp. C; Vessel 5)

After skin contact:

Wash immediately with water. In case of skin irritation, consult a physician.

Self-protection of the first aider/medical doctor:

Pay attention to self-protection.

5. Fire-fighting measures

Suitable extinguishing agents:

Non-flammable agents. Use fire extinguishing methods suitable to surrounding conditions.
CO₂, powder or water spray. Fight large fires with water spray or alcohol resistant foam. (Tris Base; Vessel 1,7)
CO₂, powder or water spray. Fight large fires with water spray or alcohol resistant foam. (Propr. comp. B; Vessel 5)

Extinguishing media which must not be used for safety reasons:

- / -

Particular hazards:

In case of fire, dangerous fumes may be released.
Forms explosive mixtures with air at elevated temperatures. In case of fire, nitrous gases can be released.
(Propr. comp. C; Vessel 5)

Special protective equipment for fire-fighters:

Wear self-contained respiratory device and fully protective suit.

Additional information:

The components are non-flammable, the packaging is flammable.

6. Accidental release measures

Methods for cleaning/collecting:

Carefully wipe up any liquid material which has been spilt using absorbent paper towels. Wash with water. Dispose of paper towels as solid waste.

Pick up mechanically. (Tris Base; Vessel 1,7)

Adsorb with liquid-binding material. Dispose contaminated material as waste according to item 13. Ensure adequate ventilation. (Propr. comp. C; Vessel 5)

Person-related safety precautions:

Avoid direct contact. Wear protective equipment. Keep unprotected persons away. Consider safety measures of section 7 and 8.

Avoid formation of dust. (Tris Base; Vessel 1,7)

Environmental precautions:

As a result of the small amounts/volumes in the vessels, special environmental protection measures are not necessary. Do not allow to enter drains/surface water/ground water.

Additional information:

- / -

7. Handling and storage

Handling:

Advice of safe handling:

Avoid contact with skin, mouth, eyes, and clothes. Do not inhale fumes. After use, replace the closing cap immediately. Follow your organization's standard safe operating procedures.

Work only in fume cupboard. (Propr. comp. C; Vessel 5)

Precautions against fire and explosion:

Keep ignition sources away. Do not smoke. Protect against electrostatic charges. (Propr. comp. C; Vessel 5)

Further information:

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Storage:

Technical measures and storage conditions:

Store, tightly closed, in the original vessel at temperatures between 2°C and 8°C.

Hints on storage assembly:

Keep only in the original container in a cool, well ventilated place.

Further information on storage conditions:

Store away from foodstuffs.

8. Exposure controls and personal protection

Workplace exposure limit value:

Toxic to reproduction RE Cat. 2 (Propr. comp. C; Vessel 5)

Chemical name	CAS-no.	Values
Propr. comp. C	-	OES short-term value 61 mg/m ³ , 20 ppm; long-term value 30 mg/m ³ , 10 ppm; Sk

Personal protective equipment:

General health and safety measures:

Keep away from foodstuffs, beverages, and feed. Avoid contact with skin, eyes, mouth, and clothing. Wash hands after using product, before breaks, and at the end of work. Instantly remove any soiled and contaminated clothing. Personal protection must be chosen as a function of the specific working place concentration and quantity of hazardous substances. In case of doubts about the suitability of your personal protective wear (gloves, glasses, etc.), please contact your workplace health and safety representative.

Respiratory protection:

Provide fresh air by local extraction system or general exhaust air.
Particle filter required when dusts are generated. (Tris Base; Vessel 1,7)
Use suitable respiratory protective device when vapours/aerosols are generated. Filter A (color code: brown) (Propr. comp. C; Vessel 5)

Hand protection:

Wear suitable protective gloves.
Butylcaoutchouc, thickness: 0.7 mm. (Propr. comp. C; Vessel 5)

Eye protection:

Wear tightly sealed goggles.

Body protection:

Wear suitable protective clothing.

Technical measures:

Emergency shower and eye shower.

Environment protection measures:

See section 6 and 7. No further measures necessary.

9. Physical and chemical properties

Appearance:

Physical state: liquid
Color: colorless
Odor: odorless

Safety relevant basis data:

pH (20°C): not determined
Boiling point: not determined
Flash point: not determined
Danger of explosion: not determined

Relative density: not determined
Solubility: not determined
Density: not determined
Melting/freezing point: not determined

Further information:

- / -

10. Stability and reactivity

If stored correctly, the product is stable at least until the expiry date printed on the label.

Conditions to avoid:

Non-normal temperature conditions.

Dangerous reactions / materials to be avoided:

Avoid contact with strong oxidizing agents. (Tris Base; Vessel 1,7)
Contact with strong oxidizing agents, reducing agents, halogens, alkali metals, metallic oxides, nitrates, halogenated hydrocarbons may cause violent reactions or an explosion. (Propr. comp. C; Vessel 5)

Hazardous decomposition products:

Nitrogen oxides. (Propr. comp. C; Vessel 5)

11. Toxicological information

Toxicological data are not available. Quantitative data on the toxicity of this product are not available. The statement is derived from products of similar composition and/or the statement is derived from the properties of the components.

Acute toxicity:

Acute toxicity of Tris Base (Vessel 1,7): LD50 (oral, rat): 5900 mg/kg
Acute toxicity of Propr. comp. C (Vessel 5): LD50 (oral, rat): 2800 mg/kg
LD50 (dermal, rabbit): 1500 mg/kg
LC50/4 h (inhalative, rat): 9-15 mg/l

Primary irritant effect / sensitization:

Irritant to skin and mucous membranes. Irritating effect on the eye. After inhalation irritations in the respiratory tract. (Tris Base; Vessel 1,7)
Slight irritations on skin. Danger through skin adsorption. Irritating effects on the eye. Slight irritations after inhalation. (Propr. comp. C; Vessel 5)

Further information:

All chemicals are potentially dangerous. They should only be handled with corresponding caution.
After swallowing nausea, vomiting, confusion, spasms, collapse, coma. (Tris Base; Vessel 1,7)
Based on clear evidence from animal experiments there is a high risk of teratogenic effects. After swallowing gastrointestinal complains. The product can degrade the alcohol tolerance and increase the toxicity of other chemicals and medicines. (Propr. comp. C; Vessel 5)

12. Ecological Information

The product has not been tested. The statement is derived from products of similar structure or composition and/or the statement is derived from the properties of the single components.

Ecotoxicity:

Fish toxicity of Propr. comp. C (Vessel 5): Lepomis macrochirus LC50: 6300 mg/l/96h
Daphnia toxicity of Propr. comp. C (Vessel 5): Daphnia magna EC50: 15700 mg/l/48h

Mobility:

- / -

Persistence and degradability:

Biodegradation of Tris Base (Vessel 1,7): 89%/28d (Hydrochloride)
Biodegradation of Propr. comp. C (Vessel 5): >90%/28d

Bioaccumulative potential:

Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected. (Propr. comp. C; Vessel 5)

Results of PBT assessment:

- / -

General information:

Do not allow to enter drains/surface water/ground water.
Water hazard class 1: slightly hazardous for water. (Tris Base; Vessel 1,7)
Water hazard class 1. Slightly hazardous for water. (Propr. comp. C; Vessel 5)

13. Disposal considerations

Appropriate disposal / product:

Dispose of waste according to applicable local, state, and federal regulations.

Waste code(s) / waste designation(s) according to EWC/AVV:

- / -

Appropriate disposal / packaging:

Empty containers can retain product residues. Thus, follow label warning even in case container is empty.

Additional information:

- / -

14. Transport information

No dangerous goods in sense of this transport regulation.

Land transport (ADR/RID):

Chemical name	UN-no.	Class	Packaging group	Hazard label
- / -	- / -	- / -	- / -	- / -

Marine transport (IMDG):

Chemical name	UN-no.	Class	Packaging group	Hazard label
- / -	- / -	- / -	- / -	- / -

Air transport (ICAO-TI/IATA-DGR):

Chemical name	UN-no.	Class	Packaging group	Hazard label
- / -	- / -	- / -	- / -	- / -

15. Regulatory information

EU regulations:

The product has been classified and marked in accordance with EU directives/ordinance on hazardous materials.

Chemical safety assessment:

For the preparation(s) a chemical safety assessment has not been carried out.

Labeling:

Labeling according to EU directives.

Chemical name	Symbol	Description	Risk phrases	Safety phrases
Tris Base	Xi	Irritant	R36/38: Irritating to eyes and skin.	-
Prop. comp. C	T	Toxic	R61: May cause harm to the unborn child. R20/21: Harmful by inhalation and in contact with skin. R36: Irritating to eyes.	S53: Avoid exposure - obtain special instructions before use. S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Other EU regulations:

- / -

National regulations:

Observe in addition any national regulation.

Employment restrictions concerning juveniles must be observed. (Tris Base; Vessel 1,7)

Employment restrictions concerning juveniles must be observed. Employment restrictions concerning pregnant and lactating women must be observed. (Prop. comp. C; Vessel 5)

16. Other information

Relevant R-phrases (number and full text):

Chemical name	Risk phrase	Text
Tris Base	R36/38	Irritating to eyes and skin.
Prop. comp. C	R61 R20/21 R36	May cause harm to the unborn child. Harmful by inhalation and in contact with skin. Irritating to eyes.

Training instructions:

The end user should have been trained in correct operating procedure and should be familiar with the contents of the material safety data sheet.

Material Safety Data Sheet

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

Further 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.

No guarantee is given regarding either its accuracy or comprehensiveness. Final determination of the suitability of individual components is the sole responsibility of the end user.

All materials can have unknown risks and therefore should be used with caution. Certain risks are described in this material safety data sheet. However, we cannot guarantee that all of the possible hazards are described.