



**CTS Collaborative Transplant Study**

**Material Safety Data Sheet for the  
 CTS-PCR-SSP TRAY and MINITRAY KITS**

**1. Identification of the products and company**

**1.1 Products**

To be applied to the following products:

Product No.	Description	
101	HLA-A* CTS-PCR-SSP TRAY KIT	
102	HLA-B* CTS-PCR-SSP TRAY KIT	
104	HLA-DRB1* CTS-PCR-SSP TRAY KIT	
120	HLA-A*+B*+C* CTS-PCR-SSP TRAY KIT	
121	HLA-A*+B*+DRB1* CTS-PCR-SSP TRAY KIT	
122	HLA-DRB1*+DQB1* Low Resolution CTS-PCR-SSP TRAY KIT	
226	HLA-DRB High Resolution CTS-PCR-SSP MINITRAY KIT	
207	HLA-DRB1*01 Subtyping CTS-PCR-SSP MINITRAY KIT	
209	HLA-DRB1*04 Subtyping CTS-PCR-SSP MINITRAY KIT	
211	HLA-DRB1*08/12 Subtyping CTS-PCR-SSP MINITRAY KIT	
213	HLA-DRB1*13 Subtyping CTS-PCR-SSP MINITRAY KIT	
214	HLA-DRB1*14 Subtyping CTS-PCR-SSP MINITRAY KIT	
215	HLA-DRB1*15 Subtyping CTS-PCR-SSP MINITRAY KIT	
216	HLA-DRB1*16 Subtyping CTS-PCR-SSP MINITRAY KIT	
103	HLA-C* CTS-PCR-SSP TRAY KIT	
340	HLA-C*04:09N CTS-PCR-SSP MINITRAY KIT	
341	HLA-DRB1*14:54 CTS-PCR-SSP MINITRAY KIT	
119	HLA-DQB1*Low Resolution CTS-PCR-SSP TRAY KIT	
127	HLA-DQA1* Low Resolution CTS-PCR-SSP TRAY KIT	
105	HLA-DQB1* High Resolution CTS-PCR-SSP TRAY KIT	
130	HLA-DQB1* High Resolution (Part I) CTS-PCR-SSP TRAY KIT	
131	HLA-DQB1* High Resolution (PartII = DQB1*06 Subtyping) CTS-PCR-SSP TRAY KIT	
106	HLA-DQA1* High Resolution CTS-PCR-SSP TRAY KIT	
128	HLA-DQB1*+DQA1* Low Resolution CTS-PCR-SSP TRAY KIT	
123	HLA-DQB1*+DQA1* High Resolution CTS-PCR-SSP TRAY KIT	
225	HPA CTS-PCR-SSP MINITRAY KIT	
124	Cytokine CTS-PCR-SSP TRAY KIT	
502	CTS-Cycler Control Kit	

**1.2 Company:** University Clinic Heidelberg - Department of Transplantation Immunology  
 Im Neuenheimer Feld 305 - D-69120 Heidelberg - Germany  
 Phone: +49-6221-564013 - Fax: +49-6221-564200

**1.3 In case of emergency:** Call your local fire department

## 2. Composition/information on ingredients

Component	Chemical	Common names	CAS No.	R	S
PCR primer mixes	Cresol red		62625-29-0	R36/37/38	S26/36
	Deoxyribonucleic acid (= DNA)	Oligonucleotides	170274-78-9	none	none
Mastermix	Ammonium sulfate		7783-20-2	none	none
	Tris buffer		77-86-1, 1185-53-1	R36/38	none
	Magnesium chloride		7791-18-6	none	none
	Glycerol	Glycerin	56-81-5	none	none
	Cresol red		62625-29-0	see above	see above
	Deoxyribonucleotides	dNTPs	1927-31-7	none	none

**Cas. No: unique numeric identifier** (designates only one substance)

**R-Phrases: health risks**

**S-Phrases: safety precautions**

## 3. Hazards identification

Harmful if swallowed (cresol red)

Irritating to eyes and skin (Tris Buffer)

Target organ: eyes, nerves, kidney, central nervous system

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing.

## 4. First aid measures

In case of contact with eyes: immediately flush eyes with copious amounts of water for at least 15 minutes. Call a physician.

In case of contact with skin: immediately wash skin with soap and copious amounts of water. Call a physician.

In case of inhalation: remove to fresh air, if not breathing give artificial respiration. If breathing difficult, give oxygen. Call a physician.

In case of ingestion: wash out mouth with water provided person is conscious. Call a physician.

Remove and wash contaminated clothing before reuse.

## **5. Fire-fighting measures**

Extinguishing media: water spray, carbon dioxide, dry chemical powder or appropriate foam.

Special fire fighting procedures: wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Unusual fire hazards: emits toxic fumes under fire conditions.

## **6. Accidental release measures**

Personal protection: wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves.

Cleaning method: contain spill, absorb with inert material.

Sweep up, avoid raising dust, place in a suitable container and hold for disposal.

Ventilate area and wash spill site after material pick up.

## **7. Handling and storage**

Wear suitable protective clothing and gloves. It is not necessary to work in a hood or to wear a mask while performing the test.

Store at temperature indicated on the product labels and the working instruction.

## **8. Exposure controls/personal protection**

Chemical safety goggles, compatible chemical-resistant gloves, NIOSH/MSHA-approved respirator, safety shower and eye bath.

Do not inhale. Mechanical exhaust is required.

Irritant. Avoid contact with skin, eyes, mucous membranes and clothing.

Wash thoroughly after handling.

Keep tightly closed.

## 9. Physical and chemical properties

Component	Appearance	Color
CTS-PCR-SSP TRAY/MINITRAY KIT	Lyophilized solution	pink
Mastermix	slight viscous liquid	purple

### Additional information:

- The addition of sodium hypochlorite to a solution of acidified ammonium sulfate led to the formation of nitrogen trichloride and resulted in an explosion.
- Contact of potassium or sodium-potassium alloy with a mixture of ammonium sulfate and ammonium nitrate results in an explosion.
- Heating a mixture of potassium chlorate and ammonium sulfate results in decomposition with incandescence.
- Mixing ammonium sulfate with fused potassium nitrate results in a vigorous reaction with flames. Decomposes at 235°C releasing ammonia and sulfur.
- Violent or explosive reactions have occurred upon direct contact of glycerol with: sodium hydride, phosphorous trioxide, perchloric acid, chlorine, calciumhypochlorite, nitric acid and hydrofluoric acid, nitric acid and sulfuric acid, sodium peroxide, hydrogen peroxide or potassium permanganate.

## 10. Stability and reactivity

Incompatibilities: strong oxidizing agents, strong bases

Hazardous combustion or decomposition products: sulfur oxides, ammonia, nitrogen oxides, carbon monoxide, carbon dioxide, and phosphorous oxides

Hazardous polymerization: will not occur

## **11. Toxicological information**

Acute effects: harmful if swallowed. May be harmful if inhaled. May be harmful if absorbed through skin. Causes eye and skin irritation. Material is irritating to mucous membranes and upper respiratory tract. Can cause CNS depression

To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated.

## **12. Ecological information**

Data not available.

## **13. Disposal considerations**

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all Federal, State and Local environmental regulations.

## **14. Transport information**

Contact [dna-labor@med.uni-heidelberg.de](mailto:dna-labor@med.uni-heidelberg.de) for transportation information.

## **15. Regulatory information**

Information according to EEC directives:

R phrases: R 36 /37/38

S phrases: S 26/36

S 26

## **16. Other information**

The above information is believed to be accurate but does not purport to be comprehensive and should only be used as a guide. This product is for professional use by PCR-trained personnel only. The Department of Transplantation Immunology, University Clinic Heidelberg, is not liable for any damage resulting from handling or contact with the products mentioned above. See the information in the product catalogue or packing slip for additional terms and conditions of sale.