Safety Data Sheet

According to EC Directive 91/155/EEC

Date of issue: 27.03.2002 Supersedes edition of 27.10.1997



1.	Identification of	the substa	ance/preparation	n and of the company/unde	ertaking	
	Identification of t	the product	t			
	Catalogue No.:	1145	553			
	Product name:	Cop Test	per Cell Test Methors Spectroquant®	od: photometric 0.05 - 8.00 mg	/l Cu 25	
		Blin	dwertküvette			
	Company/underte	aking ident	ification			
	Company:		•	64271 Darmstadt * Germany *	Tel: $+49(0)6151/72-0$	
	Emergency telepho	one No.:		112 * Telefax: +49 (0)6151/72-		
2.	Composition/inf	ormation -	on ingredients			
	CAS-No.:	7732-18	3-5			
	M:	18.02 g	y/mol	EC-No.:	231-791-2	
	Formula Hill:	H ₂ O				
3.	Hazards identifi	cation				
	No hazardous prod	uct as speci	fied in Directive 67	7/548/EEC.		
4.	First aid measur					
	No special precauti	ionary meas	ures necessary.			
5.	Fire-fighting me	asures				
	Suitable extinguish In adaption to mate		in the immediate n	neighbourhood.		
	Special risks:			-		
	none					
6.	Accidental relea	se measur	es			
	Procedures for clear Pour into drain.	aning / absor	rption:			
7	Handling and st					
7.	Handling and st	orage				
	Handling:					
	No further requirer	nents.				
	Storage:					
	Tightly closed. At The data apply to the					
8.	Exposure contro	ols/person:	al protection			

Ме	erck Safety Data Sheet			According to EC Directive 91/155/EE
	Catalogue No.: Product name:	114553 Copper Cell T Tests Spectroc Blindwertküve	quant®	notometric 0.05 - 8.00 mg/l Cu 25
	Personal protective equip	ment:		
	Protective clothing should concentration and quantity protective clothing to chemi	of the hazardous su	ubstances han	dled. The resistance of the
	Respiratory protection:	not required		
	Eye protection:	not required		
	Hand protection:	not required		
	Industrial hygiene: not required			
9.	Physical and chemical p	roperties		
	Form:	liquid		
	Colour:	colourless		
	Odour:	odourless		
	pH value			
	at	(20 °C)	neutral	
	Viscosity dynamic	(20 °C)	0.952	mPa*s
	Melting point		0	°C
	Boiling point Ignition temperature		100 not avai	°C
	Flash point		not avai	
		wer	not avai	
		per	not avai	
	Vapour pressure	(20 °C)	23	hPa
	Density	(20 °C)	1.00	g/cm ³
	Solubility in ethanol	(20 °C)	soluble	
10.	Stability and reactivity			
	Conditions to be avoided			
	none			
	Substances to be avoided			
	The generally known reaction	on partners of water		
	Hazardous decomposition	n products		
	none			
	Further information			

none

Merck Safety Data Sheet

Catalogue No.: Product name: 114553 Copper Cell Test Method: photometric 0.05 - 8.00 mg/l Cu 25 Tests Spectroquant® Blindwertküvette

11. Toxicological information

Acute toxicity

Quantitative data on the toxicity of this product are not available.

Further toxicological information

No toxic effects are to be expected when the product is handled appropriately.

12. Ecological information

not required

13. Disposal considerations

Product:

Chemicals must be disposed of in compliance with the respective national regulations. Under www.retrologistik.de you will find country- and substance-specific information as well as contact partners.

Packaging:

Merck product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system. Under www.retrologistik.de you will find special information on the respective national conditions as well as contact partners.

14. Transport information

Entire package: not subject to transport regulations.

15. Regulatory information

Labelling according to EC D	irectives
Symbol:	
R-phrases:	
S-phrases:	
German regulations	
Storage class VCI	10-13
Other national regulations	
Swiss toxic class:	F

According to EC Directive 91/155/EEC

Merck Safety Data Sheet

Catalogue No.: Product name: 114553 Copper Cell Test Method: photometric 0.05 - 8.00 mg/l Cu 25 Tests Spectroquant® Blindwertküvette

16. Other information

Reason for alteration

Chapter 4: first aid measures. Chapter 5: fire-fighting measures.

Chapter 1:change in product name.

General update.

Contact for information:

USF/GEN P * Tel: +49 6151/722775 * Fax: +49 6151/726433 * e-mail:prodsafe@merck.de

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

Safety Data Sheet

According to EC Directive 91/155/EEC

Date of issue: 27.03.2002 Supersedes edition of 27.10.1997



1.	Identification of the s <i>Identification of the pro</i>		and of the company/undertaking	
	Catalogue No.:	114553		
	Product name:		l: photometric 0.05 - 8.00 mg/l Cu 25	
	Company/undertaking	identification		
	Company:	U U	271 Darmstadt * Germany * Tel: +49 (0)615	51/72-0
	Emergency telephone No		2 * Telefax: +49 (0)6151/72-7780 *	1/72-0
2.	Composition/informa	tion on ingredients		
	Aqueous solution of orga	nic compounds.		
	Hazardous ingredients	:		
	Name according to EC Dire CAS-No. EC No.	ectives: EC-Index-No.	Labelling according to EC Directives	Content:
	Sodium carbonate 497-19-8 207-838-8	8 011-005-00-2	Xi R 36	≥ 1 - < 10 %
3.	Hazards identification	n		
	No hazardous product as	specified in Directive 67/5	548/EEC.	
4.	First aid measures			
		off with plenty of water. out with plenty of water w	with the eyelid held wide open. water, induce vomiting, call in physician.	
5.	Fire-fighting measure	es		
	Suitable extinguishing me In adaption to materials s	edia: tored in the immediate nei	ghbourhood.	
	Special risks: Non-combustible.			
	Other information: Prevent fire-fighting wate	er from entering surface wa	ater or groundwater.	

According to EC Directive 91/155/EEC

Merck Safety Data Sheet

Catalogue No.: Product name: 114553 Copper Cell Test Method: photometric 0.05 - 8.00 mg/l Cu 25 Tests Spectroquant® Reaktionsküvette

6. Accidental release measures

Person-related precautionary measures: Do not inhale vapours/aerosols.

Environmental-protection measures: Do not allow to enter sewerage system.

Procedures for cleaning / absorption: Take up with liquid-absorbent material (e.g. Chemizorb®). Forward for disposal. Clean up affected area.

7. Handling and storage

Handling:

No further requirements.

Storage:

Tightly closed. At $+15^{\circ}$ C to $+25^{\circ}$ C. The data apply to the entire pack.

8. Exposure controls/personal protection

Personal protective equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection:	required when vapours/aerosols are generated.
Eye protection:	required
Hand protection:	Use recommended

Industrial hygiene:

Change contaminated clothing. Wash hands after working with substance.

9. Physical and chemical properties

Form: Colour: Odour:		liquid colourless odourless		
pH value at		(20 °C)	~ 9	
Melting point			not availa	able
Boiling point			not availa	able
Ignition temperature			not availa	able
Flash point			not availa	able
Explosion limits	lower		not availa	able
	upper		not availa	able
Density		(20 °C)	~ 1.14	g/cm ³
Solubility in water		(20 °C)	soluble	

According to EC Directive 91/155/EEC

Merck Safety Data Sheet

Catalogue No.: Product name: 114553 Copper Cell Test Method: photometric 0.05 - 8.00 mg/l Cu 25 Tests Spectroquant® Reaktionsküvette

10. Stability and reactivity

Conditions to be avoided

Heating.

Substances to be avoided

The generally known reaction partners of water.

Hazardous decomposition products

no information available

11. Toxicological information

Acute toxicity

Quantitative data on the toxicity of this product are not available.

Further toxicological information

Effect that cannot be excluded on the basis of the components of the preparation:

After eye contact: Slight irritations.

Further data

The product should be handled with the care usual when dealing with chemicals.

12. Ecological information

Ecotoxic effects: Quantitative data on the ecological effect of this product are not available.

Further ecologic data: Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

Product:

Chemicals must be disposed of in compliance with the respective national regulations. Under www.retrologistik.de you will find country- and substance-specific information as well as contact partners.

Packaging:

Merck product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system. Under www.retrologistik.de you will find special information on the respective national conditions as well as contact partners.

14. Transport information

Entire package: not subject to transport regulations.

	rck Safety Data Sheet Catalogue No.: Product name:	114553 Copper Cell Test Method: photometric 0.05 - 8.00 mg/l Cu 25 Tests Spectroquant® Reaktionsküvette	EC Directive 91/155/E
15.	Regulatory information		
	Labelling according to EC	Directives	
	Symbol:		
	R-phrases: S-phrases:		
	German regulations		
	Water pollution class	1 (slightly polluting substance) VwVwS Anh. 4	
	Storage class VCI	10-13	
16.	Other information		
	Text of any R phrases referred	to under heading 2:	
	36 Irritating to ey	es.	
	Reason for alteration		
	Chapter 5: fire-fighting measu Chapter 12: ecological inform	ation.	
	Chapter 1:change in product r	name.	
	General update.		
	Contact for information:		
	USF/GEN P * Tel: +49 6151/	722775 * Fax: +49 6151/726433 * e-mail:prodsafe@merck.de	
	characterizes the	contained herein is based on the present state of our knowledge. It product with regard to the appropriate safety precautions. It does not intee of the properties of the product.	

Safety Data Sheet

According to EC Directive 91/155/EEC

Date of issue: 27.03.2002 Supersedes edition of 27.03.1998



1.	Identification of the sub Identification of the prod	bstance/preparation and of the company/undertaking luct	
	Catalogue No.: 1	14553	
	Product name: C	Copper Cell Test Method: photometric 0.05 - 8.00 mg/l Cu 25 Tests Spectroquant® Cu-1K	
	Company/undertaking id	lentification	
	Company:	Merck KGaA * 64271 Darmstadt * Germany * Tel: +49 (0)6151/72-	0
	Emergency telephone No.:	+49 (0)6151/72112 * Telefax: +49 (0)6151/72-7780 *	
2.	Composition/information	on on ingredients	
	Solution in DMSO.		
	Hazardous ingredients:		
	Name according to EC Direct CAS-No. EC No.	ives: EC-Index-No. Labelling according to EC Directives	Content:
	Dimethyl sulfoxide 67-68-5 200-664-3		≥ 50 %
3.	Hazards identification		
		pecified in Directive 67/548/EEC.	
4.	First aid measures		
	After eye contact: rinse ou After swallowing: make vio	off with plenty of water. Remove contaminated clothing. at with plenty of water with the eyelid held wide open. ctim drink plenty of water. Subsequently administer: activated charcoal (20 tive: Sodium sulfate (1 tablespoon/1/4 l water). Call in physician.	
5.	Fire-fighting measures		
	Suitable extinguishing med Water, foam, powder.	lia:	
		eavier than air. Formation of hazardous combustion gases or vapours ne following may develop in event of fire: sulfur oxides.	
	Special protective equipme Do not stay in dangerous breathing apparatus.	ent for fire fighting: s zone without suitable chemical protection clothing and self-contained	
	Other information: Contain escaping vapours v groundwater.	with water. Prevent fire-fighting water from entering surface water or	

Me	erck Safety Data Sheet		According to EC Directive 91/155/EEC
	Catalogue No.: Product name:	114553 Copper Cell Test Tests Spectroqua Cu-1K	t Method: photometric 0.05 - 8.00 mg/l Cu 25 nnt®
6.	Accidental release measu	res	
	Person-related precautionary Avoid substance contact. Do	measures: not inhale vapours/a	erosols.
	Environmental-protection me Do not allow to enter sewerag		
	Procedures for cleaning / abso Take up with liquid-absorben area.		nizorb®). Forward for disposal. Clean up affected
7.	Handling and storage		
	Handling:		
	No further requirements.		
	Storage:		
	Tightly closed. At $+15^{\circ}$ C to $+$	25°C. The data apply	y to the entire pack.
8.	Exposure controls/person	al protection	
	Specific control parameter		
	TRGS 900		
	Name Value Skin resorption	Dimethyl sulfoxi 160 mg/m ³ Risk of skin abso	
	Personal protective equipn		
	Protective clothing should be concentration and quantity of	e selected specificall of the hazardous sub-	y for the working place, depending on stances handled. The resistance of the ined with the respective supplier.
	Respiratory protection:		apours/aerosols are generated.
	Eye protection:	required	
	Hand protection:	required	
	Industrial hygiene:	-	tive barrier cream. Wash hands after working with
9.	Physical and chemical pro	operties	
	Form:	liquid	
	Colour:	colourless	
	Odour:	characteristic	
	pH value	(20 °C)	~ 7
	Melting point	(20 0)	not available
	o r		
	Boiling point		not available

	rck Safety Data S Catalogue No Product name	o.:	114553 Copper Cell Te Tests Spectroq Cu-1K	est Method: ph uant®	otometric (According to EC Directive 91/155/ 0.05 - 8.00 mg/l Cu 25
	Flash point Explosion limits	lower		95 not avail	°C able	(Dimethylsulfoxide) o.c.
	1	upper		not avail	able	
	Density		(20 °C)	~ 1.10	g/cm ³	
	Solubility in					
	water		(20 °C)	soluble		
	log Pow:			-1.35		(Dimethylsulfoxide) (experimental)
10.	Stability and react	tivity				
	Conditions to be av	oided				
	Strong heating.					
	Substances to be av	oided				
	alkali metals, hydride oxyhalides, oxyhalog	es, nitrates,	halogen-haloger ounds, acid halid	n compounds, les, strong oxid	perchloric lizing ager	acid, nonmetallic hts.
	Hazardous decomp	osition pr	oducts			
	in the event of fire: Se	-				
		-				
	Further information					
	hygroscopic; inflamm incompatible with var		cs, metals (in the	e presence of a	tmospheri	c oxygen and/or moisture).
11.	Toxicological info	rmation				
	Acute toxicity					
	Applicable to the mai LD_{50} (dermal, rat): 4					
	LD_{50} (oral, rat): 1450		5.			
	LD 50 (01ai, 1ac). 1450					
	Specific symptoms in	00 mg/kg.	ıdies:			
	Specific symptoms in Eye irritation test (rat	00 mg/kg. n animal stu bbit): Sligh	t irritations.			
	Specific symptoms in	00 mg/kg. 1 animal stu bbit): Sligh lbbit): Sligl	t irritations.			
	Specific symptoms in Eye irritation test (rat Skin irritation test (ra Subacute to chronic	00 mg/kg. n animal stu bbit): Sligh (bbit): Sligh c toxicity	t irritations. nt irritations.			
	Specific symptoms in Eye irritation test (rat Skin irritation test (ra	00 mg/kg. n animal stu bbit): Sligh (bbit): Sligh c toxicity	t irritations. nt irritations.			
	Specific symptoms in Eye irritation test (rat Skin irritation test (ra <i>Subacute to chronic</i> Applicable to the mai	00 mg/kg. n animal stu bbit): Sligh (bbit): Sligh <i>c toxicity</i> in compone	t irritations. nt irritations. ent:			
	Specific symptoms in Eye irritation test (rat Skin irritation test (rat Subacute to chronic Applicable to the mai Sensitization: Sensitization test (gui No indication of carc: No indication of muta	00 mg/kg. n animal stu bbit): Sligh bbit): Sligh bbit): Sligh c toxicity in compone inea pig): n inogenic aci agenic acti	t irritations. ht irritations. ent: negative. ctivity. vity.			
	Specific symptoms in Eye irritation test (rab Skin irritation test (rab Subacute to chronic Applicable to the mai Sensitization: Sensitization test (gui No indication of carc:	00 mg/kg. n animal stu bbit): Sligh bbit): Sligh c toxicity in compone inea pig): n inogenic ac agenic activ ty: Ames te	t irritations. ht irritations. ent: negative. ctivity. vity. est: negative.			
	Specific symptoms in Eye irritation test (rat Skin irritation test (rat Subacute to chronic Applicable to the mai Sensitization: Sensitization test (gui No indication of carc: No indication of muta Bacterial mutagenicit	00 mg/kg. n animal stu bbit): Sligh bbit): Sligh c toxicity in compone inea pig): n inogenic ac agenic activ ty: Ames te	t irritations. ht irritations. ent: negative. ctivity. vity. est: negative.			
	Specific symptoms in Eye irritation test (rat Skin irritation test (rat Subacute to chronic Applicable to the mai Sensitization: Sensitization test (gui No indication of carc: No indication of muta Bacterial mutagenicit	00 mg/kg. n animal stu bbit): Sligh bbit): Sligh c toxicity in compone inea pig): n inogenic ac agenic activ ty: Ames te	t irritations. ht irritations. ent: negative. ctivity. vity. est: negative.			

Ме	rck Safety Data Sheet	Accord	ing to EC Directive 91/155/EEC
	Catalogue No.: Product name:	114553 Copper Cell Test Method: photometric 0.05 - 8.00 mg/l Cu Tests Spectroquant® Cu-1K	25
	Further toxicological inform	ation	
	Properties to be expected on the	he basis of the main component of the preparation:	
	After eye contact: Slight irritati	te: CNS disorders, nausea, tiredness, headache.	
	Further data		
	Further hazardous properties ca The product should be handled	nnot be excluded. with the care usual when dealing with chemicals.	
12.	Ecological information		
	Applicable to the main compon	ent:	
	Abiotic degradation: Rapid degradation. (air)		
	Biologic degradation: Biodegradation: 3.1 % /14 d. Biologically not readily degrad	able.	
	Behavior in environmental com Distribution: log p(o/w): -1.35 No bioaccumulation is to be ex	Dimethylsulfoxide).	
	Ecotoxic effects: Biological effects: Fish toxicity: L.macrochirus L0 Bacterial toxicity: activated slu	C ₅₀ : 33500 mg/l /48 h. dge EC ₅₀ : 10-100 mg/l /30 min.	
	Further ecologic data: Do not allow to enter waters, w	aste water, or soil!	
13.	Disposal considerations		
	Product:		
	Chemicals must be disposed www.retrologistik.de you will contact partners.	of in compliance with the respective national regulations. I find country- and substance-specific information as well	Under as
	Packaging:		1
	or must be passed to a packagin	st be disposed of in compliance with the country-specific reg g return system. Under www.retrologistik.de you will find sp ational conditions as well as contact partners.	ulations pecial

14. Transport information Entire package: not subject to transport regulations.

Label Symbol R-phra S-phra Germ Water Storag Data s Profes 16. Other Reaso Chapt Chapt Chapt Chapt Chapt Chapt	rases: rases: <i>nan regulations</i> r pollution class ge class VCI sheet of the Chemical ssional Association er information <i>ter 15</i> : deletion of labe	114553 Copper Cell Test Method: photometric 0.05 - 8.00 mg/l Cu 25 Tests Spectroquant® Cu-1K Directives 2 (polluting substance) VwVwS Anh. 4 10-13 M017 Solvents	
Label Symbol R-phra S-phra Germ Water Storag Data s Profes 16. Other Reaso Chapt Chapt Chapt Chapt Chapt Chapt	elling according to EC a pol: rases: rases: man regulations r pollution class ge class VCI sheet of the Chemical essional Association er information on for alteration ter 15: deletion of labe	 2 (polluting substance) VwVwS Anh. 4 10-13 	
Symbol R-phra S-phra Germ Water Storag Data s Profes 16. Other Reaso Chapt Chapt Chapt Chapt Chapt Chapt	bol: rases: rases: man regulations r pollution class ge class VCI sheet of the Chemical assional Association er information on for alteration ter 15: deletion of labe	 2 (polluting substance) VwVwS Anh. 4 10-13 	
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Profes 16. Other <i>Rease</i> Chapt Chapt Chapt Chapt Chapt Chapt Chapt	er information on for alteration ter 15: deletion of labe	M017 Solvents	
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Chapt Chapt Chapt Chapt Chapt	ter 15: deletion of labe		
Chapt	ter 2: change in ingredien ter 4: first aid measures. ter 5: fire-fighting measu ter 8: specific control par ter 9: change/addition in ter 11: toxicological infor ter 12: ecological informa	rres. rameter. physical/chemical proprties. prmation.	
Chapt	ter 1:change in product na	name.	
Gener	ral update.		
Conte	act for information:		
		722775 * Fax: +49 6151/726433 * e-mail:prodsafe@merck.de	
	characterizes the	contained herein is based on the present state of our knowledge. It product with regard to the appropriate safety precautions. It does not intee of the properties of the product.	