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***COPPER PHTHALOCYANINE***  
***CAS N°: 147-14-8***

## Substance

<i>End Point</i>	:	<b>IDENTIFIERS, PHYSICAL AND CHEMICAL PROPERTIES</b>
<i>Chemical Name</i>	:	<b>Copper, (29H,31H-phthalocyaninato(2-)-N29,N30,N31,N32)-, (SP-4-1)-</b>
<i>Common Name</i>	:	<b>Copper phthalocyanine</b>
<i>CAS Number</i>	:	<b>147-14-8</b>

## Synonyms

<b>Accosperse cyan blue GT</b>	<b>Aqualine blue</b>
<b>Bahama blue BC</b>	<b>Bermuda blue</b>
<b>Blue GLA</b>	<b>Blue phthalocyanine .alpha.-form</b>
<b>Blue pigment</b>	<b>Blue toner GTNF</b>
<b>BT 4651</b>	<b>Calcotone blue GP</b>
<b>Ceres blue BHR</b>	<b>Chromatex blue BN</b>
<b>Chromofine blue 4920</b>	<b>C.I. 74160</b>
<b>C.I. Pigment blue 15</b>	<b>Congo blue B 4</b>
<b>Copper(II) phthalocyanine</b>	<b>Copper phthalocyanin</b>
<b>Copper .beta.-phthalocyanine</b>	<b>Copper(2+) phthalocyanine</b>
<b>.alpha.-Copper phthalocyanine</b>	<b>.eta.-Copper phthalocyanine</b>
<b>Copper phthalocyanine blue</b>	<b>Copper tetrabenzoporphyrzine</b>
<b>Cromofine blue 4950</b>	<b>Cromophtal blue 4G</b>
<b>Cupric phthalocyanine</b>	<b>Cyan blue BNC 55-3745</b>
<b>Cyanine blue BB and others</b>	<b>Cyan peacock blue G</b>
<b>Dainichi cyanine blue B</b>	<b>Daltolite fast blue B</b>
<b>Duratint blue 1001</b>	<b>EM blue NCB</b>
<b>Euvinyl blue 702</b>	<b>Fastogen blue 5007</b>
<b>Fastolux blue</b>	<b>Fastolux peacock blue</b>
<b>Fenalac blue B disp</b>	<b>Franconia blue A 4431</b>
<b>Graphol blue BL</b>	<b>Helio blue B</b>
<b>Helio fast blue B</b>	<b>Heliogen blue and others</b>
<b>Hostaperm blue AFN</b>	<b>Irgalite blue BCA</b>
<b>Irgalite blue LGLD</b>	<b>Irgalite fast brilliant blue BL</b>
<b>Irgaplast blue RBP</b>	<b>Isol fast blue B</b>

## Properties &amp; Definitions

<i>Molecular Formula</i>	:	<b>C32H16CuN8</b>
<i>Molecular Weight</i>	:	<b>576.08</b>
<i>Melting Point</i>	:	<b>600C, DCP</b>
<i>State</i>	:	<b>Solid</b>
<i>Density</i>	:	<b>1.62 (.alpha. Form)*</b>
<i>Vapour Pressure</i>	:	<b>375E-7kPa(295E-6mmHg) at 384C</b>
<i>Water Solubility</i>	:	<b>Not soluble</b>
<i>Particle</i>	:	<b>Microcrystals</b>
<i>Colour</i>	:	<b>Bright blue with purple lustre</b>
<i>Impurities</i>	:	<b>Water</b>
<i>General Comments</i>	:	<b>Soluble in 98% H2SO4, stable toward heat. *Density for the .beta. form = 1.61-1.62</b>

## Overall Evaluation

## SIDS INITIAL ASSESSMENT

This chemical is presently of low priority for further work.

## SHORT SUMMARY OF THE REASONS WHICH SUPPORT THE RECOMMENDATION

Phthalocyanine blue is non-volatile solid, and the production volume is ca. 12000 tonnes for 1985 and 10328 tonnes for 1991, respectively in Japan. This chemical is insoluble in water, and stable in neutral, acidic or alkaline solutions, and is classified as "not readily biodegradable" by the results of the biodegradation test conducted as SIDS testing. The chemical is non-toxic to fish and terrestrial plants.

The chemical showed no genotoxic effects, and NOAEL for repeated dose toxicity was 200mg/kg/day and NOAEL for reproductive toxicity was 1000mg/kg/day. Estimated Dose of Low Concern (EDLC) was calculated 0.2mg/kg/day and 10.0mg/kg/day for repeated dose toxicity and reproductive toxicity, respectively.

Daily intake of the chemical was estimated as 8.15E-4mg/day from calculation using MNSEM 145J exposure model.

In conclusion, although phthalocyanine blue is persistent and toxicological test showed moderate toxicity, no further testing is needed at present considering its exposure levels. However, international information on exposure is needed for more realistic analysis.

## Production-Trade

*Chemical Name* : **Copper phthalocyanine**  
*CAS Number* : **147-14-8**  
*Geographic Area* : **JPN**

## Production

Quantity                      Year

**12000 T - P**                      **1985**

**10328 T - P**                      **1991**

*General Comments* : Data for 1985 include production and import levels.

## References

### **!SIDSP\***

OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 1, (1993)

### **MITIR\***

MITI. Chemical Report submitted by the Ministry of International Trade and Industry, Japan, (1993)

## Uses

*Chemical Name* : **Copper phthalocyanine**  
*CAS Number* : **147-14-8**  
*Geographic Area* : **JPN**

## Use

<u>Quantity</u>	<u>Year</u>	<u>Comments</u>
50 %		Inks - 50% of produced quantity
25 %		Paint - 25% of produced quantity
20 %		Plastic - 20% of produced quantity
5 %		Unspecified uses - 5% of produced quantity

## References

*Secondary References* : **!SIDSP\***  
OECD/CIDS. Screening Information Data Set (SIDS) of OECD High  
Production Volume Chemicals Programme, 4, (1993)

## Study

*End Point* : **CONCENTRATION**  
*Chemical Name* : **Copper phthalocyanine**  
*CAS Number* : **147-14-8**

## Test Method and Conditions

*Test method description* : Multi-phase non-steady state equilibrium model for evaluation of fate of chemicals in environment consisting of air, water, soil and sediment phases. Version 1.45J (presented by Kikuo Yoshida) (MNSEM 145J). All values are calculated.

## Test Results

Matrix      Concentrations      Spec.      Date

**AIR**      **1.67E-12 mg/l**

In air. 7.09E-11ppm also reported. Steady state mass was 3.34E+00g

**AQ**      **3.74E-4 mg/l**

In water. Steady state mass was 7.48E+06g

**SOIL**      **2.43E-5 mg/l**

In soil. Steady state mass was 3.89E+04g

**SED**      **1.03E-3 mg/l**

In sediment. Steady state mass was 1.03E+05g

**PLANT**      **1.7E-4 mg/l**

In vegetation

**FOOD**

In meat : 1.25E-10mg/l. In milk : 1.20E-10mg/l

## References

*Primary Reference* : **#EAMIT\***  
Exposure Estimation conducted by MITI and Environmental Agency (EA), Japan, (1993)

*Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

*End Point* : **HUMAN INTAKE AND EXPOSURE**  
*Chemical Name* : **Copper phthalocyanine**  
*CAS Number* : **147-14-8**

## Test Subject

Organism Medium Specification Route Lifestage Sex

**AIR**  
**WATER**  
**FOOD**

## Test Method and Conditions

*Test method description* : Multi-phase non-steady state equilibrium model for evaluation of fate of chemicals in environment consisting of air, water, soil and sediment phases version 145J by Kikuo Yoshida (abbreviated as MNSEM 145J). All values are calculated.

## Test Results

Intake Spec. Date

**3.29E-8 mg/d**

Through inhalation of air (estimated value)

**7.48E-04 mg/d**

Through drinking water (estimated value)

**3.59E-06 mg/d**

Through ingestion of fish (estimated value)

**9.28E-12 mg/d**

Through ingestion of meat (estimated value)

**1.46E-11 mg/d**

Through ingestion of milk (estimated value)

**6.36E-05 mg/d**

Through ingestion of vegetables (estimated value)

**8.15E-04 mg/d**

Total estimated exposure dose

## References

*Primary Reference* : **#EAMIT\***  
 Exposure Estimation conducted by MITI and Environmental Agency (EA), Japan, (1993)

*Secondary Reference* : **!SIDSP\***  
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

*End Point* : **BIODEGRADATION**  
*Chemical Name* : **Copper phthalocyanine**  
*CAS Number* : **147-14-8**  
*Study type* : **LAB**

*Species/strain/system* : Standard activated sludge seed

## Test Substance

*Purity Grade* : **94%**

## Test Method and Conditions

*Test method description* : OECD Guideline 301C. The Suldge samples were mixed by stirring in a single container and then cultured (at 25C for one month).  
*Temperature* : **25 C**

## Exposure

*Exposure Period* : **1 mo**

## Test Results

<u>Quantity</u>	<u>Time</u>	<u>Comments on result</u>
<b>0 %</b>	AV	14d-BOD
<b>1 %</b>		Biodegradation from ultraviolet spectrophotometry (UV)
<i>General Comments</i>	:	Not readily biodegradable.

## References

*Primary Reference* : **#MITIT\***  
Test conducted by the Ministry of International Trade and Industry (MITI), Japan, (1993)

*Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)



## Study

*End Point* : **PHOTODEGRADATION**  
*Chemical Name* : **Copper phthalocyanine**  
*CAS Number* : **147-14-8**

## Test Results

*Quantity*      *Time*      *Comments on result*

Estimated photochemical degradation rate: 1.06E-10mol/l/s estimated  
T/2 for photolysis: 1.04E-2 years.

## References

*Primary Reference* : **#MITIT\***  
Test conducted by the Ministry of International Trade and Industry  
(MITI), Japan, (1993)

*Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High  
Production Volume Chemicals Programme, (1993)

## Study

*End Point* : **BIOCONCENTRATION**  
*Chemical Name* : **Copper phthalocyanine**  
*CAS Number* : **147-14-8**  
*Study type* : **LAB**

*Species/strain/system* : Strain not specified

## Test Substance

*Purity Grade* : **94%**

## Test Method and Conditions

*Test method description* : OECD Guideline 305C. A flow-through test. GLP specified.

## Exposure

*Exposure Period* : **6 wk**

## Test Results

<i>Organ</i>	<i>Bioconcent. Factor</i>	<i>Calc Basis</i>	<i>Time</i>	<i>State</i>	<i>Comments on result</i>
	<-1				Log BCF: level 1 exposure
	<-0				Log BCF: level 2 exposure

## References

*Primary Reference* : **#MITIT\***  
Test conducted by the Ministry of International Trade and Industry (MITI), Japan, (1993)

*Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

End Point : MAMMALIAN ACUTE TOXICITY  
 Chemical Name : Copper phthalocyanine  
 CAS Number : 147-14-8

## Test Results

<u>Organism</u>	<u>Medium</u>	<u>Spec.</u>	<u>Route</u>	<u>Lifestage</u>	<u>Sex</u>	<u>Effect</u>	<u>Effect Comments</u>
RAT			ORL			LD50	Oral LD50 for rats was established as >10000mg/kg/body weight.

## References

Primary Reference : CTCPG\*  
 Gosselin, R. E. et al. Chemical Toxicology of Commercial Products, 4th edition, (1976)

Secondary Reference : !SIDSP\*  
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 10, (1993)

## Study

End Point : MAMMALIAN ACUTE TOXICITY  
 Chemical Name : Copper phthalocyanine  
 CAS Number : 147-14-8

Species/strain/system : Rabbits

## Test Results

<u>Organism</u>	<u>Medium</u>	<u>Spec.</u>	<u>Route</u>	<u>Lifestage</u>	<u>Sex</u>	<u>Effect</u>	<u>Effect Comments</u>
RBT			ORL			LD50	Oral LD50 for rabbits was established as >16000mg/kg/body weight.

## References

Primary Reference : #HRCUR\*  
 Huntington Research Centre, Unpublished Report, 813D TKI83-80

Secondary Reference : !SIDSP\*  
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 10, (1993)

## Study

End Point : MAMMALIAN TOXICITY  
 Chemical Name : Copper phthalocyanine  
 CAS Number : 147-14-8  
 Study type : LAB

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

MOUSE

ORL

## Exposure

Dose / Concentration : >5000 mg/kg BW  
 Exposure comments : 13-week feeding study in mice with dosage of 5000mg/kg/BW/d.

## Test Results

<u>Organ</u>	<u>Effect</u>	<u>Rev.</u>	<u>OnSet</u>	<u>Sex</u>	<u>Affected in</u> <u>Exposed - Controls</u>
-----	-----	-----	-----	-----	-----
	NEF				

No toxic signs or pathological changes were found after 13-week of testing.

## References

Primary Reference : #URACN\*  
 Amer. Ink Maker. Unpublished Report conducted for ACNA, (1987)

Secondary Reference : !SIDSP\*  
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 11-12, (1993)

## Study

End Point : MAMMALIAN TOXICITY  
 Chemical Name : Copper phthalocyanine  
 CAS Number : 147-14-8  
 Study type : LAB

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

RAT

ORL

M

10/GROUP

10

F

10/GROUP

10

Species/strain/system : SLC Wistar strain

## Test Method and Conditions

Test method description : OECD Repeated Dose Toxicity Guideline.

## Exposure

Exposure Period : 28 d  
 Dose / Concentration : 40-1000 mg/kg BW  
 Exposure comments : 28-day Repeated Dose Toxicity Test with dose levels of: 0, 40, 200 and 1000mg/kg per day administered in oral gavage.

## Test Results

Organ	Effect	Rev.	OnSet	Sex	Affected in Exposed - Controls
BLOOD	STRUC				
RBC	BIOCH				

After 28-days administration of test substance significant decrease of red blood cells count and tendency to decrease of hemoglobin and packed cell volume were detected in 200 and 1000mg/kg groups of male rats.

BONEM INCR

After recovery period there was slight increase of erythroblasts in 1000mg/kg dose group of female rats.

LUNG	SIZE	M
SPLEN	SIZE	
ADREN	SIZE	

There was increase of organ weight in lungs, spleen, adrenals and salivary glands of the 1000mg/kg dose group of male rats.

NEF

NOAEL for rats was established as 200mg/kg/day.

RBC STRUC  
CHNG

Copper phthalocyanine affects slightly the differentiation of red blood cells.

General Comments : Estimated dose of low concern for repeated dose toxicity in rats was calculated as 0.2mg/kg per day.

## References

Primary Reference : #MOMHW\*  
 Chemical Report submitted by the Ministry of Health and Welfare, Japan

Secondary Reference : !SIDSP\*  
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 11-12, (1993)

## Study

End Point : MAMMALIAN TOXICITY  
 Chemical Name : Copper phthalocyanine  
 CAS Number : 147-14-8  
 Study type : LAB  
 Geographic Area : USA

## Test Subject

Organism	Medium	Specification	Route	Lifestage	Sex	Number exposed	Number controls
RAT			ORL				
MOUSE			ORL				

## Test Method and Conditions

*Test method description* : Feeding Study

## Exposure

*Dose / Concentration* : **0.3-5.0 %**

*Exposure comments* : 13-week feeding study in rats and mice with the test substance dosage level of 0.3% to 5% in food.

## Test Results

<i>Organ</i>	<i>Effect</i>	<i>Rev.</i>	<i>OnSet</i>	<i>Sex</i>	<i>Affected in Exposed - Controls</i>
-----	-----	-----	-----	-----	-----
	<b>NEF</b>				

No signs of toxicity could be observed after 13-week of feeding, the diets containing from 0.3%-5% of the test substance.

## References

*Primary Reference* : **!NTPSE3**  
National Toxicology Program, Technical Report Series, 1(5), (1981)

*Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 11-12, (1993)

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## Study

End Point : **CARCINOGENICITY**  
 Chemical Name : **Copper phthalocyanine**  
 CAS Number : **147-14-8**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

**MOUSE**

**ORL**

## Exposure

Exposure Period : **8 mo**  
 Exposure comments : Carcinogenicity potential was tested in mice during 8-month period.

## Test Results

<u>Organ</u>	<u>Effect</u>	<u>Rev.</u>	<u>OnSet</u>	<u>Sex</u>	<u>Affected in Exposed - Controls</u>
-----	-----	-----	-----	-----	-----
	<b>NEF</b>				

No tumors were found after 8-months administration of the test substance to mice.

## References

Primary Reference : **NCIMAV**  
 Haddow, A. and Horning, E. S. National Cancer Institute Monograph, 24(109), (1960)

Secondary Reference : **!SIDSP\***  
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 11-12, (1993)

## Study

End Point : **MUTAGENICITY**  
 Chemical Name : **Copper phthalocyanine**  
 CAS Number : **147-14-8**  
 Study type : **LAB**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

BACT

VTR

Species/strain/system : Salmonella typhimurium, strains: TA98, TA100, TA102, TA97

## Exposure

Exposure comments : Preincubation assay with and without metabolic activation.

## Test Results

<u>Organ</u>	<u>Effect</u>	<u>Rev.</u>	<u>OnSet</u>	<u>Sex</u>	<u>Affected in Exposed - Controls</u>
NEF					

All variants of the test were negative for mutagenicity, both with and without metabolic activation.

## References

Primary Reference : **#MOMHW\***  
Chemical Report submitted by the Ministry of Health and Welfare, Japan, (1993)

Secondary Reference : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 14-15, (1993)

## Study

End Point : **MUTAGENICITY**  
 Chemical Name : **Copper phthalocyanine**  
 CAS Number : **147-14-8**  
 Study type : **LAB**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

BACT

VTR

Species/strain/system : Salmonella typhimurium, strains: TA1538, TA1535

## Exposure

Exposure comments : Preincubation assay and spot test with and without metabolic activation.



## Test Results

<i>Organ</i>	<i>Effect</i>	<i>Rev.</i>	<i>OnSet</i>	<i>Sex</i>	<i>Affected in Exposed - Controls</i>
-----	-----	-----	-----	-----	-----
<b>NEF</b>					
Negative results, with and without metabolic activation					

## References

<i>Primary Reference</i>	:	<b>JTEHD6</b> Milvy, P. and Kay, K. Journal of Toxicology and Environmental Health, 4, 31, (1978)
<i>Secondary Reference</i>	:	<b>!SIDSP*</b> OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 14-15, (1993)

## Study

<i>End Point</i>	:	<b>MUTAGENICITY</b>
<i>Chemical Name</i>	:	<b>Copper phthalocyanine</b>
<i>CAS Number</i>	:	<b>147-14-8</b>
<i>Study type</i>	:	<b>LAB</b>

## Test Subject

<i>Organism</i>	<i>Medium</i>	<i>Specification</i>	<i>Route</i>	<i>Lifestage</i>	<i>Sex</i>	<i>Number exposed</i>	<i>Number controls</i>
-----	-----	-----	-----	-----	-----	-----	-----
<b>BACT</b>		<b>VTR</b>					

*Species/strain/system* : Salmonella typhimurium, strains: TA98, TA100,

## Exposure

*Exposure comments* : Suspension assay with and without metabolic activation.

## Test Results

<i>Organ</i>	<i>Effect</i>	<i>Rev.</i>	<i>OnSet</i>	<i>Sex</i>	<i>Affected in Exposed - Controls</i>
-----	-----	-----	-----	-----	-----
<b>NEF</b>					
Negative for mutagenicity, with and without activation					

## References

<i>Primary Reference</i>	:	<b>MUREAV</b> Hayatsu et al. Mutation Research, 124, 1, (1983)
<i>Secondary Reference</i>	:	<b>!SIDSP*</b> OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 14-15, (1993)

## Study

*End Point* : **MUTAGENICITY**  
*Chemical Name* : **Copper phthalocyanine**  
*CAS Number* : **147-14-8**  
*Study type* : **LAB**  
*Geographic Area* : **JPN**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

**HAMST**

**VTR**

*Species/strain/system* : Chinese hamster, CHL cells

## Test Substance

*Vehicle - Solvent* : Dimethylsulfoxide

## Test Method and Conditions

*Test method description* : Japanese Guideline for Screening Mutagenicity Testing of Chemicals; GLP: NO

## Exposure

*Dose / Concentration* : **0.75-3.0 mg/ml**  
*Exposure comments* : Cells were incubated with doses of: 0, 0.75, 1.50, 3.0mg/ml with and without metabolic activation (S9), 2 plates/test. Positive controls: benzo(a)pyrene.

## Test Results

<i>Organ</i>	<i>Effect</i>	<i>Rev.</i>	<i>OnSet</i>	<i>Sex</i>	<i>Affected in Exposed - Controls</i>
-----	-----	-----	-----	-----	-----
<b>CELL</b>	<b>UNS</b>				

The test substance was negative for the mutagenic effect under the test conditions used. (No chromosomal aberrations were observed).

*General Comments* : The lowest concentration producing cell toxicity: with metabolic activation >2.0mg/ml, without metabolic activation = 1.3mg/ml.

## References

*Primary Reference* : **#MOMHW\***  
 Chemical Report submitted by the Ministry of Health and Welfare, Japan, (1993)

*Secondary Reference* : **!SIDSP\***  
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 14-15, (1993)

## Study

*End Point* : **IRRITATION**  
*Chemical Name* : **Copper phthalocyanine**  
*CAS Number* : **147-14-8**  
*Geographic Area* : **GBR**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

**SKN**

*Species/strain/system* : Animal not specified

## Test Method and Conditions

*Test method description* : The Consumer Product Safety Commission of the U.S.A. in the Code of Federal Regulations, Title 16, section 1550.41

## Exposure

*Exposure comments* : Skin irritation potential was tested.

*General Comments* : The test substance was classified as negative for skin irritation potential under the test condition.

## References

*Primary Reference* : **#HRCUR\***  
Huntington Research Centre, Unpublished Report, 86859D/TKI

*Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 11, (1993)

## Study

End Point : REPRODUCTION  
 Chemical Name : Copper phthalocyanine  
 CAS Number : 147-14-8  
 Study type : LAB  
 Geographic Area : JPN

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

RAT			ORL		M	12/GROUP	12
					F	12/GROUP	12

Species/strain/system : Crj, CD(SD) strain

## Test Substance

Purity Grade : 99.5%

## Test Method and Conditions

Test method description : OECD preliminary reproduction toxicity test; GLP: YES

## Exposure

Dose / Concentration : 40-1000 mg/kg BW  
 Exposure comments : Groups of 12 males and 12 females per dose were given 0, 40, 200, 1000mg/kg/day in oral gavage to test reproductive / developmental toxicity, duration of testing was 42-days for male rats; 14-days before mating to day 3 of lactation for female rats.

## Test Results

<u>Organ</u>	<u>Effect</u>	<u>Rev.</u>	<u>OnSet</u>	<u>Sex</u>	<u>Affected in Exposed - Controls</u>
-----	-----	-----	-----	-----	-----
	<b>NEF</b>				

NOAEL for parental generation was 1000mg/kg/day.

**OFSPR** **NEF**

NOAEL for F1 generation was 1000mg/kg/day of maternal exposure.

**FECES** **COLOR**

Blue discoloration of feces in groups of >40mg/kg and blue-green or grayish blue discoloration of contents of the stomach and intestines were noted in few animals on 200mg/kg and almost all animals on 1000mg/kg dose group both sexes.

Estimated dose of low concern was calculated as: 10mg/kg/day.

General Comments : The substance was negative for reproductive toxicity observed in parental animals (fertility, gestation, reproductive organ toxicity etc.).

## References

*Primary Reference* : **#MOMHW\***  
Chemical Report submitted by the Ministry of Health and Welfare, Japan

*Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High  
Production Volume Chemicals Programme, 15-16, (1993)

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## Study

*End Point* : **TERATOGENICITY**  
*Chemical Name* : **Copper phthalocyanine**  
*CAS Number* : **147-14-8**  
*Study type* : **LAB**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

**RAT**

*Species/strain/system* : Crj, CD(SD) strain pregnant rats

## Test Substance

*Purity Grade* : **99.5%**

## Test Method and Conditions

*Test method description* : OECD Guideline; Reproductive Developmental Toxicity.

## Exposure

*Exposure comments* : In utero exposure in combined studies of reproductive / developmental toxicity was carried out with maternal dose level of : 0, 40, 200, 1000mg/kg/day through day 3 of lactation.

## Test Results

<i>Organ</i>	<i>Effect</i>	<i>Rev.</i>	<i>OnSet</i>	<i>Sex</i>	<i>Affected in Exposed - Controls</i>
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	<b>NEF</b>				

No teratogenic effects observed under the test conditions used.

## References

*Primary Reference* : **#MOMHW\***  
 Chemical Report submitted by the Ministry of Health and Welfare, Japan  
  
*Secondary Reference* : **!SIDSP\***  
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 15-17, (1993)

## Study

*End Point* : **AQUATIC ACUTE TOXICITY**  
*Chemical Name* : **Copper phthalocyanine**  
*CAS Number* : **147-14-8**

*Species/strain/system* : Orange-red killifish (*Oryzias latipes*)

## Test Method and Conditions

*Test method description* : Static test

## Test Results

<u>Organism</u>	<u>Medium</u>	<u>Spec.</u>	<u>Route</u>	<u>Lifestage</u>	<u>Sex</u>	<u>Effect</u>	<u>Effect Comments</u>
<b>FISH</b>	<b>AQ</b>	<b>ESTUA</b>				<b>LC50</b>	LC50 = >100mg/l for 48h (reported as 100ppm w/v)

## References

*Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

*End Point* : **TERRESTRIAL ACUTE TOXICITY**

*Chemical Name* : **Copper phthalocyanine**

*CAS Number* : **147-14-8**

*Species/strain/system* : Rice (Coryza sativa) Toyonishiki

## Test Method and Conditions

*Test method description* : OECD Guideline

## Test Results

Organism Medium Spec. Route Lifestage Sex Effect Effect Comments

**PLANT**

**LC50** LC50 = >100mg/l (reported as >100ppm (w/v))

*General Comments* : Practically insoluble.

## References

*Primary Reference* : **#URTEA\***  
Unpublished Toxicity Test conducted by the Environmental Agency, (EA), Japan, (1993)

*Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

*End Point* : **TERRESTRIAL ACUTE TOXICITY**

*Chemical Name* : **Copper phthalocyanine**

*CAS Number* : **147-14-8**

*Species/strain/system* : Turnip (Brassica rapa Hikari)

## Test Method and Conditions

*Test method description* : OECD Guideline

## Test Results

Organism Medium Spec. Route Lifestage Sex Effect Effect Comments

**PLANT**

**LC50** LC50 = >100mg/l (reported as >100ppm (w/v))

*General Comments* : Practically insoluble. The substance stained the roots of the test plant at concentration of 100mg/l.



## References

- Primary Reference* : **#URTEA\***  
Unpublished Toxicity Test conducted by the Environmental Agency, (EA), Japan, (1993)
- Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)
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## Study

- End Point* : **TERRESTRIAL ACUTE TOXICITY**
- Chemical Name* : **Copper phthalocyanine**  
*CAS Number* : **147-14-8**
- Species/strain/system* : Lettuce (*Lettuca sativa*)

## Test Method and Conditions

- Test method description* : OECD Guideline

## Test Results

<u>Organism</u>	<u>Medium</u>	<u>Spec.</u>	<u>Route</u>	<u>Lifestage</u>	<u>Sex</u>	<u>Effect</u>	<u>Effect Comments</u>
<b>PLANT</b>						<b>LC50</b>	LC50 = >100mg/l (reported as >100ppm (w/v))
<i>General Comments</i>		:	Practically insoluble. The substance stained the roots of the test plant at concentration of 100mg/l.				

## References

- Primary Reference* : **#URTEA\***  
Unpublished Toxicity Test conducted by the Environmental Agency, (EA), Japan, (1993)
- Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)
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## Study

End Point : **TERRESTRIAL TOXICITY**  
 Chemical Name : **Copper phthalocynine**  
 CAS Number : **147-14-8**  
 Study type : **LAB**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

**PLANT**

Species/strain/system : Lettuce-Top mark (lettuca sativa)

## Test Method and Conditions

Test method description : OECD Guideline

## Test Results

<u>Organ</u>	<u>Effect</u>	<u>Rev.</u>	<u>OnSet</u>	<u>Sex</u>	<u>Affected in Exposed - Controls</u>
<b>EC50</b>					

Effect concentration EC50 = >100mg/l (reported as >100ppm (w/v))

General Comments : Practically insoluble. The substance stained the roots of the plant at concentration of 100mg/l.

## References

Primary Reference : **#URTEA\***  
Unpublished Toxicity Test conducted by the Environmental Agency, (EA), Japan, (1993)

Secondary Reference : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

End Point : **TERRESTRIAL TOXICITY**  
 Chemical Name : **Copper phthalocyanine**  
 CAS Number : **147-14-8**  
 Study type : **LAB**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

**PLANT**

Species/strain/system : Rice (Cryza sativa) Toyonishiki

## Test Substance

Purity Grade : **79%**

## Test Method and Conditions

*Test method description* : OECD Guideline

## Test Results

<i>Organ</i>	<i>Effect</i>	<i>Rev.</i>	<i>OnSet</i>	<i>Sex</i>	<i>Affected in Exposed - Controls</i>
	<b>EC50</b>				
EC50 = >100mg/l.					
<i>General Comments</i>		: Practically insoluble.			

## References

*Primary Reference* : **#URTEA\***  
Unpublished Toxicity Test conducted by the Environmental Agency, (EA), Japan, (1993)

*Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

*End Point* : **TERRESTRIAL TOXICITY**  
*Chemical Name* : **Copper phthalocyanine**  
*CAS Number* : **147-14-8**  
*Study type* : **LAB**

## Test Subject

*Organism* *Medium* *Specification* *Route* *Lifestage* *Sex* *Number exposed* *Number controls*

### PLANT

*Species/strain/system* : Turnip (Brassica rapa Hikari)

## Test Method and Conditions

*Test method description* : OECD Guideline

## Test Results

<i>Organ</i>	<i>Effect</i>	<i>Rev.</i>	<i>OnSet</i>	<i>Sex</i>	<i>Affected in Exposed - Controls</i>
	<b>EC50</b>				
EC50 = >100mg/l (reported as >100ppm (w/v))					
<i>General Comments</i>		: Practically insoluble. The substance stained the roots of the test plant at concentration of 100mg/l.			

## References

- Primary Reference* : **#URTEA\***  
Unpublished Toxicity Test conducted by the Environmental Agency, (EA), Japan, (1993)
- Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)
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## Substance

Chemical Name :  
Reported Name : **COPPER PHTHALOCYANINE**  
CAS Number : **147-14-8**

Area Type Subject Spec. Description Level / Summary Information :

RUS REG AIR OCC **MAC** CLV: 5.0MG/M3 (AEROSOL) HAZARD CLASS: III  
**CLASS** Title :

Reference :

Effective Date : 01JAN1989

Last Amendment : GOSTS\*, 12.1.005, 1988  
GOSUDARSTVENNYI STANDART SSSR  
(STATE STANDARD OF USSR)

Entry / Update : MAY1990

## Substance

Chemical Name :  
Reported Name : **COPPER PHTHALOCYANINE**  
CAS Number : **147-14-8**

Area Type Subject Spec. Description Level / Summary Information :

RUS REG AIR OCC **MAC** CLV: 5.0MG/M3 (AEROSOL)(APPLIES TO DYE-STUFFS BASED ON THIS SUBSTANCE);  
**CLASS** HAZ. CLASS: III  
Title :

Reference :

Effective Date : 1JAN1989

Last Amendment : GOSTS\*, 12.1.005, 1988  
GOSUDARSTVENNYI STANDART SSSR  
(STATE STANDARD OF USSR)

Entry / Update : MAY1990