

## Luminescent enamel material card

1. Identification of the substance: Luminescent pigment
2. Application: Glass color
3. Characteristic: Silicoaluminat composition of alkaline metals.
4. Composition: Molybdaenum, Aluminium oxide, Europium oxide, Silicon oxide.
5. Risks: Substance is not recognized as a dangerous. It is not radioactive, reactive, flammable or toxic.
6. First Aid:
  - a. Toxicity: For the humans was no toxic effects recognized.
  - b. Staining of the skin: Substance has no effect on the skin. No need of the first aid.
  - c. Staining of the eyes. Substance has no effect on the eyes. Wash out the eyes with the clean water.
  - d. Inhalation: Leave the dusty environment or use a respirator. No need of the first aid.
  - e. Internal consummation: Drink a larger amount of water and summon vomiting.
7. Manipulation and storing
  - a. Tips for safe manipulation: Use air dust filters or respirators. Prevent creation of the dust.
  - b. Tips for fire prevention: Observe usual fire prevention principals.
  - c. Storing requirements: Keep in dry and cold environment.
8. Laws and ordinances: Product obliges this German law:  
*LEBENSMITTEL – UND BEDARFSGEGENSTANDEGESETZ §§ 30, 31*  
*BGVV XL*  
*BGVV XXXVI*  
*FDA 21 CFR CH I, § 176.170, § 176.180*  
*90/128/EWG*
9. Appendix – Test Report

## Test Report

Customer : Science & Technology Group Co.Ltd.

TÜV-Ref.-No. : 424039004/01/D2080001

Number of samples : one article, different types

Date of Delivery : 03.07.2000

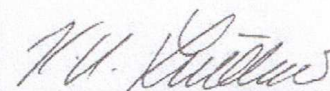
Date of Testing : 03.07.2000 - 24.07.2000

Place of Testing : Cologne/Germany

Test required : Chemical tests  
Measurement of Activity Concentration, compare enclosure

Summary : In accordance with the examinations carried out, the test specimen correspond to the requirements of the EU directive 88/378.  
The products that are produced by using this material should be checked at least.

Cologne, 24.07.2000

  
Karl-Heinz Lindner

The test results exclusively refer to the samples examined.  
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TÜV Produkt und Umwelt GmbH.

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TEST REPORT

TÜV-Order-No. : 424039004/01/D2080001  
 Date of Delivery : 03.07.2000

Indication : test for harmful substances  
 DIN EN 71 part 3/ 3.95  
 Material : pigment

	Lab.-No	961507	961508
	Test Sample	2)Luminescent PL granulat, plastic	3)Luminescent PL pigment
Arsen	mg/kg	<5	<5
Quecksilber	mg/kg	<5	<5
Barium	mg/kg	<100	<100
Antimon	mg/kg	<10	<10
Chrom	mg/kg	<10	<10
Blei	mg/kg	<20	<20
Cadmium	mg/kg	<10	<10
Selen	mg/kg	<100	<100

Sample Preparation : DIN EN 71 part 3/ 3.95  
 Methode : ICP-OES, DIN 38406 part 22

Limit according to DIN EN 71 part 3	detection limit
Arsen 25 mg/kg	5 mg/kg
Quecksilber 60 mg/kg	5 mg/kg
Barium 500 mg/kg	100 mg/kg
Antimon 60 mg/kg	10 mg/kg
Chrom 60 mg/kg	10 mg/kg
Blei 90 mg/kg	20 mg/kg
Cadmium 75 mg/kg	10 mg/kg
Selen 500 mg/kg	100 mg/kg

TEST REPORT

TÜV-Order-No. : 424039004/01/D2080001

Indication : test for harmful substances  
 DIN EN 71 part 3/ 3:95

Material : pigment

Indication : chamber measurement, GC/MS-screening

The analytic was done by QMA 2.516.231. The results are semiquantitative calculated with n-decane as standard-substance.

The test parameters: product loading: 2 packages of granulat and 5 g powder ; air exchange rate: 2/h; temperature: 24 °C. Air sampling was done on XAD4 and coconut shell charcoal.

Test Sample	XAD4
	Luminescent PPG6-10, UG6-50
Lab.-No	961506
Substanz	µg/m³
Toluol	3,5
Isobutylacetat	1,3
Ethylbenzol	5,4
m/p-Xylol	12
Styrol	2,5
o-Xylol	14
a-Pinen	1,8
2,2,4,6,6-Pentamethylheptan	260
C9-Aromat	5,6
Summe C9-Aromaten	15
Naphthalin	3,3
2,2,4-Trimethyl-1,3-pentandiol-diisobutytrat (CAS# 6846-50-0)	41
Diisobutylphthalat	1,8
Summe Aliphaten inklusive n-Aliphaten	270
Summe aller erfaßten VOCs	640



TEST REPORT

TÜV-Order-No. : 424039004/01/D2080001  
 Date of Delivery : 03.07.2000

Indication : test for harmful substances  
 DIN EN 71 part 3/ 3.95  
 Material : pigment  
 Methode : screening test  
 Liquid break down, H<sub>2</sub>SO<sub>4</sub>, HNO<sub>3</sub>  
 ICP-OES, DIN 38406 part 22

	Lab.-No	961508
	Test Sample	3)Luminescent PL pigment
Liquid break down		#
Aluminium	mg/kg	258000
Beryllium	mg/kg	<50
Calcium	mg/kg	800
Eisen	mg/kg	1600
Kalium	mg/kg	<50
Kobalt	mg/kg	<100
Kupfer	mg/kg	85
Magnesium	mg/kg	<50
Mangan	mg/kg	<100
Molybdän	mg/kg	990
Natrium	mg/kg	300
Nickel	mg/kg	150
Thallium	mg/kg	<100
Titan	mg/kg	<100
Zink	mg/kg	<100
Zinn	mg/kg	<100
Phosphor, gesamt	mg/kg	<100
Schwefel, gesamt	mg/kg	1800

**TÜV Produkt und Umwelt GmbH**  
 Unternehmensgruppe TÜV Rheinland/Berlin-Brandenburg

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**TEST REPORT**

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 Date of Delivery : 03.07.2000

Indication : test for harmful substances  
 DIN EN 71 part 3/ 3.95  
 Material : pigment  
 Methode : Extraction, DIN 38414 S 4  
 Formaldehyde, § 35 LMBG 82.02 - 1,  
 pH-value, DIN 38404 TI. 5

	Lab.-No	961508
	Test Sample	3)Luminescent PL pigment
Formaldehyde	mg/kg	20
pH-Wert d. wässr. Extrakts		11.7

	Lab.-No	961509
	Test Sample	4)Luminescent, Fiber
Formaldehyde	mg/kg	<10