

Consumo

LGAI TECHNOLOGICAL CENTER, S.A.
Campus UAB
Crt. de Acceso a la Universidad de Medicina, s/n
08193 Bellaterra (Barcelona)
Tlf.: 93 5672000 Fax: 93 5672001



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REPORT Nº: 928/10/1879

Nº. OF RECORD: 6410

TEST REPORT ISSUED BY LGAI TECHNOLOGICAL CENTER, S.A.

CUSTOMER IDENTIFICATION DATA:

NAME: KRYPTON CHEMICAL, S.L.

CITY: HOSPITALET DE L'INFANT

CENTER:

PROVINCE: 43890 TARRAGONA

ADDRESS: P.I. LES TAPIES, C/MARTI FRANQUES 12

COUNTRY: ESPAÑA

SAMPLE IDENTIFICATION DATA:

PRODUCT: HOT PROJECTED POLYUREA

SAMPLE TAKING DATE:

SUPPLIER:

PACKING DATE:

RECEPTION DATE: 24/03/10

BRAND:

EXP. DATE:

BAR CODE

BATCH:

PRODUCT Tª T.M.:

SECTION:

CATEGORY:

YOUR/REFERENCE:

REMARKS: SENT BY CUSTOMER

PHYSICO-CHEMICAL ANALYSIS

Start 24/03/10 End 24/03/10

Characteristics of materials

	Parameter	Results	Legislative Norm
1	Migration of materials in contact with drinking water	Completed	

Control of content

	Parameter	Results	Legislative Norm
2	Turbidity (UNF)	0.6	<=5
3	Ammonia (mg/l)	<0.5	<=0.5
4	Total Organic Carbon (TOC) (mg/l)	24.2	No changes
5	Cyanides (µg/l)	<5.0	<=50
6	Combined residual chlorine (mg/l)	<0.5	<=2
7	Residual free chlorine (mg/l)	<0.5	<=1
8	pH (upH)	6.6	>=6.5 <=9.5
9	Nitrites (mg/l)	<0.5	<=0.5
10	Oxidizability (mg O2/l)	1.0	<=5
11	Sodium (mg/l)	1.6	<=200
12	Chlorides (mg/l)	3.0	<=250
13	Fluorides (mg/l)	<0.1	<=1.5
14	Nitrates (mg/l)	<0.5	<=50
15	Sulphates (mg/l)	<1.0	<=250
16	Aluminium (Al) (µg/l)	4.0	<=200
17	Antimony (Sb) (µg/l)	<2.0	<=5
18	Arsenic (As) (µg/l)	<2.0	<=10
19	Boron (B) (mg/l)	<0.1	<=1

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The results obtained only certify the analyzed sample
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PHYSICO-CHEMICAL ANALYSIS

Start 24/03/10 End 24/03/10

20	Cadmium (Cd)	(µg/l)	<1.0	<=5
21	Copper (Cu)	(mg/l)	<0.1	<=2
22	Chromium (Cr)	(mg/l)	<2.0	<=50
23	Iron (Fe)	(µg/l)	<10.0	<=200
24	Manganese (Mn)	(µg/l)	<2.0	<=50
25	Mercury (Hg)	(µg/l)	<0.2	<=1
26	Nickel (Ni)	(µg/l)	<2.0	<=20
27	Lead (Pb)	(µg/l)	<2.0	<=25
28	Selenium (Se)	(µg/l)	<2.0	<=10
29	Volatile organic compounds			
	1,2 Dichloroethane	(µg/l)	<0.5	<=3
	Trichloroethane + Tetrachloroethane	(µg/l)	<1.0	<=10
30	Trihalomethanes	(µg/l)	6.0	<=100
31	Benzene	(µg/l)	<0.5	<=1
32	Polycyclic Aromatic Hydrocarbons			
	Benzopyrene	(µg/l)	<0.01	<=0.01
	Sum of Polycyclic Aromatic Hydrocarbons	(µg/l)	<0.1	<=0.1
33	Pesticides			
	Aldrin	(µg/l)	<0.01	<=0.03
	Dieldrin	(µg/l)	<0.01	<=0.03
	Heptachlorine	(µg/l)	<0.01	<=0.03
	Heptachlorine epoxide	(µg/l)	<0.01	<=0.03
	Individual pesticide	(µg/l)	<0.01	
	Total pesticides	(µg/l)	<0.50	<=0.5
34	Acrylamide			<=0.1
	First migration	(µg/l)	<0.1	<=0.1
35	Epiclorhidrine	(µg/l)	<1.0	<0.1

Product Features

	Parameter		Results	Legislative Norm
36	Conductivity	(µS/cm)	<20.0	<=2500
37	Flavour: Dilution rate		1	<=3
38	Colour	(mg/Pt/Co)	<1.0	<=15
39	Odour: Dilution rate		1	<=3
40	Reaction at 20 ppm chlorine		No changes	No Changes

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PHYSICO-CHEMISTRY DEPARTMENT:

Note: N. D. = Not Detected. The detection limit for the technique used is 1µg/l

According to Annex I of Royal Decree 140/2003, the maximum limit set for Epichlorohydrin is 0.1µg/l. Mass Gas Chromatography is the technique used to determine this parameter. Even with the best possible optimization, this technique does not enable reaching a detection limit lower than 1 µg/l.

The parameter determination, except for the migration at the reaction at 20 ppm of chlorine, has been carried out at a collaborating Laboratory, under record number 702791.

Migration for polymeric materials:

-Extraction means: Chlorinated water containing 1 ppm chlorine.

-Migration Temperature: 40°C.

-Contact time: The sample is washed several times, as instructed in Standard EN-12873.

Next, three 72-hour cycles are performed, thereby obtaining three testing samples.

Parameters are analysed during the initial 72-hour cycle; only the parameters that are beyond the limits of RD 140/2003 in the first cycle are repeated in the second and third cycle.

-Volume of the sample: 1 litre for each of the 72-hour cycles.

-Contact surface: 500 cm².

-Surface/volume ratio: 500 cm²/l.

CONCLUSION

The material is consistent, with the parameters analyzed, with the requirements of the Royal Decree 140/2003. Although no epichlorohydrin has been detected, it should be mentioned that its detection limit is higher than the one stated, since the technique used does not allow reaching a detection limit lower than 1 µg/l.

No chemical reaction product observed at 20 ppm of chlorine, the product complies with respect to this parameter with the requirements of Royal Decree 140/2003

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English translation of the original in Spanish 928/09/8505

METHODOLOGY USED

Q 1 EN 12873	Q 2 Internal method
Q 3 Internal method	Q 4 Internal method
Q 5 Internal method	Q 6 Internal method
Q 7 Internal method	Q 8 Internal method
Q 9 Internal method	Q 10 Internal method
Q 11 Internal method	Q 12 Internal method
Q 13 Internal method	Q 14 Internal method
Q 15 Internal method	Q 16 Internal method
Q 17 Internal method	Q 18 Internal method
Q 19 Internal method	Q 20 Internal method
Q 21 Internal method	Q 22 Internal method
Q 23 Internal method	Q 24 Internal method
Q 25 Internal method	Q 26 Internal method
Q 27 Internal method	Q 28 Internal method
Q 29 Internal method	Q 30 Internal method
Q 31 Internal method	Q 32 Internal method
Q 33 Internal method	Q 34 Internal method
Q 35 Internal method	Q 36 Internal method
Q 37 Internal method	Q 38 Internal method
Q 39 Internal method	Q 40 Internal method

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**Department Manager Inorganic Chemistry
Isabel Garmendia Arnau
Bellaterra, 25th of March of 2010**

LGAI Technological Center, S.A.
Isabel Garmendia Arnau

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