

**BAM****Bundesanstalt für  
Materialforschung  
und -prüfung**12200 Berlin  
Telefon: (0 30) 81 04-0  
Telefax: (0 30) 8 11 20 29  
E-Mail: info@bam.de  
Internet: www.bam.de

**Test report**  
concerning an investigation of  
"P - FeSi 45 - A - 355/2"  
according to the UN Test N.5  
and  
**Expert's opinion**  
on transport classification

**BAM reference** II.2-461/08

**Copy** 1<sup>st</sup> copy of 2 copies

**Customer** KOVOHUTY Dolný Kubín, s.r.o  
Mr David Chapman  
Nábrezie Oravy 625/12  
026 17 Dolný Kubín

**Order date** 23 July 2008

**Reference** -

**Receipt of order** 23 July 2008

**Test samples  
(BAM code)** P - FeSi 45 - A - 355/2 (II.23/250808/01)

**Receipt of samples** 25 August 2008

**Test date** September 2008

**Test location** BAM Working Group „Explosive Substances of Chemical  
Industries”

**Test procedure  
according to** UN Recommendations on the Transport of Dangerous  
Goods, Tests and Criteria, fourth revised edition, 2003,

This test report consists of page 1 to 3.

This test report may only be published in full and without any additions. A revocable permission in writing has to be obtained from BAM for any amended reproduction of this certificate or the publication of any excerpts. The test results refer exclusively to the tested materials.

In case a German version of the test report is available, exclusively the German version is binding.



## 1. Introduction

At the request of KOVOHUTY Dolný Kubín, s.r.o, the Federal Institute for Materials Research and Testing (Bundesanstalt für Materialforschung und –prüfung, BAM), Berlin, Germany, carried out investigations on the ability of the substance P - FeSi 45 - A - 355/2 to emit flammable gases on contact with water according to the regulations on transport of dangerous goods by Road (ADR), Rail (RID), Navigation (ADNR), Sea mode (IMDG-Code) and Air traffic (ICAO TI).

## 2. Sample description

Based on the information of KOVOHUTY Dolný Kubín, s.r.o the substance "P - FeSi 45 - A - 355/2" has the following composition:

Si	43 % - 47 %
Al	max. 1,0 %
Mn	max. 0,5 %
C	max. 0,1 %
P	max. 0,05 %
S	max. 0,04 %
Cr	max. 0,3 %
Fe	rest

A chemical-analytical characterisation of the sample was not performed by the BAM.

## 3. Test Results

According to the sieve analysis the particle size of the sample is < 500 µm. Therefore the sample was investigated as delivered.

The test was performed three times with 25 g weighed sample and 30 ml of water at ambient temperature ( $20 \pm 1$  °C) and atmospheric pressure. The rate of gas emission was calculated over the measuring time of 120 hours (5 days).

Table 1: Maximum rate of gas emission

Sample name	Balance No	Weight [g] / Volume [ml]	Maximum rate of gas emission [l/(kg·h)]
P - FeSi 45 - A - 355/2	1	25,02 / 30	0,15
	2	25,01 / 30	0,14
	3	25,02 / 30	0,15

#### 4. Evaluation of the Test Results

For the sample "P - FeSi 45 - A - 355/2" a maximum rate of gas emission of less than 1 l/(kg\*h) was determined in the UN-Test N.5.

Table 2: Test criteria of UN-Test N.5

Maximum rate of evolution of gas	Class	Packing group
$\geq 10 \text{ l / (kg min)}$	Class 4.3	I
$\geq 20 \text{ l / (kg h)}$ and not $\geq 10 \text{ l / (kg min)}$	Class 4.3	II
$> 1 \text{ l / (kg h)}$ and neither $\geq 20 \text{ l / (kg h)}$ nor $\geq 10 \text{ l / (kg min)}$	Class 4.3	III
$\leq 1 \text{ l / (kg*h)}$	Not Class 4.3	none

##### 4.1. Summary and conclusion

On the basis of the test results and according to the criteria specified in the UN Recommendations on the Transport of Dangerous Goods, the investigated sample "P - FeSi 45 - A - 355/2" does not meet the criteria for classification as a substance of Class 4.3. Hazardous properties which may lead to a classification of another class have to be taken into account by the customer.

Federal Institute for Materials Research and Testing (BAM)  
Division II.2 "Reactive Substances and Systems"  
Working Group "Explosive Substances of Chemical Industries"  
12200 Berlin, 2008-10-07

by order

*d. claus-schulz*  
Dr. Heike Michael-Schulz  
Regierungsdirektorin



(Official seal)

A handwritten signature in blue ink, appearing to read "Malow", is written over the name of Dr. Marcus Malow.

Dr. Marcus Malow  
Regierungsrat

Distribution list: 1<sup>st</sup> copy: Customer  
2<sup>nd</sup> copy: BAM