

Determination of Dust Explosion Characteristics



Research Centre
for applied System Safety
and Industrial Medicine

You would like to determine dust explosion characteristics at FSA GMBH?

Yes, here you are!

We prepared a short check, or QA list to help you before you decide to send us your products, that means your samples.

1. How many products (samples) would you like to be tested?
Normally for one sample it takes about one week.
2. What is the name of the product (sample)? What are the main components of it? Are there dangerous substances, e.g. hazardous to health, toxic, carcinogen, water polluting etc. in the product?
It will be highly appreciated that you kindly send us the **safety datasheet in german language** (GefStoffV §5) of the product **first**. Before your product could be preceded, we will proof the datasheet first. In our laboratory we can only handle uncritical substances (e.g. foodstuff). These products which have critical and dangerous substances will not be tested. For the reason we keep the right to refuse a product which contains dangerous substances for examination.
3. We investigate fire and explosion (combustible) characteristics of dust layers and dispersed dust in accordance with German national and European standards.
4. Before determination tests will be carried out the product (sample) will be prepared according to German and European standards with following procedure:
 - a. the product will be sieved (possible particle size < 63 µm for tests with dispersed dust and particle size < 250 µm for tests with deposited dust) and will be dried in an Oven;
 - b. Depending on the fineness of the product, 5 kg of one product should be enough for the standard tests;
 - c. If there is an extraordinarily high effort needed to clean test's apparatus after the tests, the cost will be considered;
 - d. After investigation we will send a report with the results to you.
 - e. We also need the tax-number of your company for the invoice and both the report and the invoice will be sent to your company later.
 - f. The rest of a sample will be kept in a storage room after investigation for two years and after two years it will be sent to the professional waste disposal. If stated before the rest of the sample will be sent back to you and the return cost will be considered.



Price List for the Combustion and Explosion Characteristics of Dusts

	Status	March 2022
	Quantity	EUR
<u>Sample Preparation (generally)</u>		Net
Particle size analysis	50g	260,00 €
Determination of moisture content	10g	160,00 €
<u>Standard Identification</u>		
<u>Deposited Dust (<250µm)</u>		
Combustibility class test at room temperature (BZ)	300ml	160,00 €
Minimum ignition temperature (GT)	500ml	700,00 €
<u>Whirled-up dust (<63µm)</u>		
Maximum explosion overpressure (p_{max})	20l-sphere	1-2kg 1.700,00 €
Maximum rate of pressure rise $(dp/dt)_{max}$		
KSt-value		
Lower explosion limit (LEL)	500g	950,00 €
Minimum ignition temperature (MIT)	100ml	650,00 €
Minimum ignition energy (MIE)	500g	1.900,00 €
Price for Preparation and Standard Identification	Sample ca. 5kg	6.480,00 €

Prices are not including 19% taxes



Specific Identification

Deposited Dust (<250µm)

Combustion test at higher temperature (BZ)	3-5kg	270,00 €
Self ignition temperature / Volume 400cm ³	3-5kg	1.600,00 €
Bulk density	1kg	450,00 €
Bulk good resistance (currently not possible)	1kg	550,00 €
Low temperature carbonisation	500ml	600,00 €

Whirled-up dust (<63µm)

Explosibility in modified Hartmann tube	500g	830,00 €
Explosibility in 20 l - sphere	500g	1.070,00 €
Dustiness coefficient	15kg	2.100,00 €
Tests im 1m ³ -Vessel	Price on application	

Special analysis (e.g. metal dust)	ask for an individual offer
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Any other costs which may arise

Cleaning	depending on complexity
Waste disposal depending on quantity and chemical properties according to German environmental laws	depending on complexity
Delivery charges if the rest of a sample needs to be returned	depending on complexity

Prices are not including 19% taxes



Request form for sample determination

Mandatory information

customer:

Address:

Contact:

Tel.:

E-Mail:

Name of sample:

Main content:

Hazardous substances: YES NO

Safety data sheet included: YES NO hand in later

Which kind of determinations you would like to have?

Optional information

Date of sampling:

Place of sampling:

Reason for the investigation:

FSA Forschungsgesellschaft
für angewandte
Systemsicherheit und
Arbeitsmedizin mbH



Dynamostraße 7-11
68165 Mannheim
Telefon: (0621) 4456-1555
Telefax: (0621) 4456-1554
klaus.marsch@fsa.de

Amtsgericht Mannheim
HRB 5341
Geschäftsführer:
Klaus Marsch
www.fsa.de

Bankverbindung:
HypoVereinsbank Mannheim
IBAN DE26 6702 0190 0007 0099 92
BIC: HYVEDEMM489
USt-IdNr. DE143872987

Contact laboratory

Dr. Andreas Arnold
Tel.: 0621/4456-3489
Email: Andreas.Arnold@bgn.de

Madlen Schoenherr
Tel.: 0621/4456-3669
Email: Madlen.Schoenherr@bgn.de

Matthias Schmitt
Tel.: 0621/4456-3605
Email: Matthias.Schmitt@bgn.de

Jianye Shi
Tel.: 0621/4456-3467
Email: Jianye.Shi@bgn.de

Michael Metzner
Tel.: 0621/4456-3532
Email: Michael.Metzner@bgn.de

Shipping address

FSA GmbH
Zentrallabor
+ *contact*
Dynamostr. 7-11
68165 Mannheim