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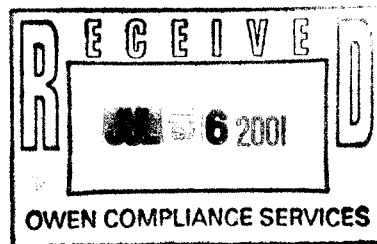
Canada Centre for  
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Centre canadien de la  
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26 June 2001

X000940

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c/o Owen Compliance Services, Inc.  
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Fort Worth, TX 76140  
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Dear Mr. Boston,

**Testing and recommendation of classification on BRX (wetted) explosive.**

Organic Technology, Inc. requested the Canadian Explosives Research Laboratory to test a new explosive, BRX, wetted, and accordingly recommend a classification for transport. The sample was received in good condition on 11 April 2001 and assigned sample identification number X000940. Tests from Series 3 were performed on the sample at the CANMET Bells Corners Complex, Nepean, Ontario between 7 May 2001 and 17 May 2001.

The explosive is described in the submitter's declaration dated 31 October 2001. BRX (wetted) is a nitro-aromatic explosive - (1,3,5-trinitro-2,4,6-tripicrylbenzene,  $C_{24}H_6N_{12}O_{24}$ , 20% 60/40 water/isopropanol). The trade name "BRX" has been applied by the manufacturer. The explosive has a declared melting point of 400°C and would be suitable for high temperature applications. The nature of the explosive is consistent with hazard division 1.1. Tests from Series 3 were performed to ensure that the product was safe for transport by the UN criteria. It is not necessary to perform Series 6 tests to determine the hazard division on this type of substance.

The results of the tests are given in the appendix.

Based on the results, the substance is recommended for transport with a classification of Division 1.1. It is recommended for inclusion in Compatibility Group D based on its properties.

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The Canadian Explosives Research Laboratory is accredited by the Standards Council of Canada as a testing laboratory for specific tests registered with the Council.

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By copy of this letter, the Canadian Competent Authority is requested to classify the product for transport.

The results in this report relate only to the sample supplied. This report shall not be reproduced except in full, without the written approval of the Manager of the Canadian Explosives Research Laboratory.

Yours sincerely,

*R. A. Bowes*

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<http://www.nrcan.gc.ca/mms/explosif/>

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## Appendix.

### Sample description.

Outer packaging: fibreboard box, 252 mm by 352 mm by 272 mm

Markings: Substances, explosive, n.o.s. (BRX, wetted), UN 0475, 1.1D, TDG 1.1D label, Sample for Laboratory Examination CA-9412011, net explosive wt. 0.325 kg. Also packaging certification and box manufacturer's marks.

Inner packaging: Plastics bottle - 182 mm by 150 mm dia.

Other: Paper and fibreboard dunnage.

Substance: Yellow powder, wet.

### Tests and results.

#### **Bureau of Explosives Impact Test - UN 3(a)(i).**

##### *Procedure:*

The test was performed in accordance with the UN method. (10 mg per trial, 3.7 kg drop mass).

The test was performed on the substance as received, and on the substance air and desiccator dried.

##### *Results:*

As received: 0 explosions in 10 trials.

Dried: 4 explosions in 10 trials.

##### *Assessment:*

The product is “-” (negative) by the UN criteria.

#### **Modified Type 12 Impact Test - UN 3(a)(v).**

##### *Procedure:*

The test was performed in accordance with the UN method. (30 mg per trial, 2.5 kg drop mass, 2.5 kg intermediate, garnet paper).

The test was performed on the substance as received, and on the substance air and desiccator dried.

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*Results:*

As received:  $H_{50} = 51$  cm (log value = 1.7151, standard deviation = 0.1215)

Dried:  $H_{50} = 56$  cm (log value = 1.7494, standard deviation = 0.6719)

*Assessment:*

The product is “-” (negative) by the UN criteria.

**BAM Friction Test - UN 3(b)(i).**

*Procedure:*

The test was performed in accordance with the UN method.

The test was performed on the substance as received, and on the substance air and desiccator dried.

*Results:*

As received: Limiting load > 360 N

Dried: Limiting load > 360 N

*Assessment:*

The product is “-” (negative) by the UN criteria.

**Thermal stability test - UN 3(c):**

*Test description:*

Screening tests were performed on 5 g amounts of the substance and the test was performed on a 100 g amount of the substance in accordance with the instrumented UN method.

*Results:*

Screening test: There was no ignition, explosion or evidence of decomposition. The mass losses were 14.9% and 16.0% on duplicate samples. The mass loss is probably due to the loss of wetting agent.

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Instrumented test (100 g): There was no explosion or ignition. There was no evidence of self heating as shown by an increase of temperature of the sample. There was no other evidence of decomposition. The mass loss was 4.9%. The mass loss was less than that observed in the screening test because the instrumented test is performed in a closed vessel.

*Assessment:*

The result of the test was "-" (negative) by the UN criteria.

**Small-scale burning test - UN 3(d):**

*Test description:*

Two trials were performed on 100 g amounts of sample as received in accordance with the UN method. The 10 g pilot tests were not done.

*Results:*

In both trials the test substance burned slowly with orange "sparking" flames. (98 s for trial 1 and 105 s for trial 2).

There were no explosions.

*Assessment:*

The result was "-" (negative) by the UN criteria.

**Recommended Classification.**

Shipping name:	Substances, explosive, n.o.s. (BRX, wetted)
UN or identification number:	UN 0475
Division/compatibility group:	1.1D
Packing group:	II
Packing instruction:	P101

Recommended packaging:

Outer: Boxes - 4G, 4C1, 4D, or 4F;  
Barrels - 2C2; or  
Drums - 1G.

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Inner: Bags - waxed paper, plastic or rubberized textile; or  
Sheets - waxed paper, plastic or rubberized textile.

