



U.S. Department
of Transportation

Research and
Special Programs
Administration

400 Seventh Street, S.W.
Washington, D.C. 20590

The US Department of Transportation
Competent Authority for the United States

CLASSIFICATION OF EXPLOSIVES

Based upon a request by Kay Ames on behalf of BHT Products, P.O. Box 616, Hampton, Arkansas, the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR).

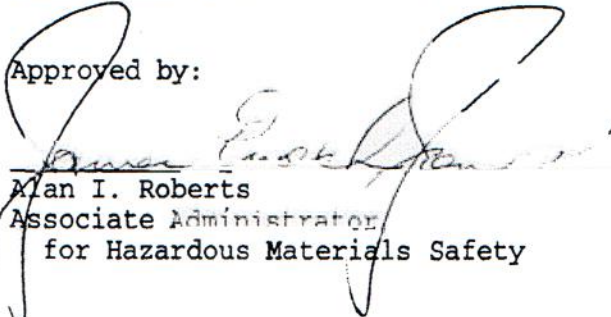
U.N. PROPER SHIPPING NAME AND NUMBER: Igniters, UN0454 (see note 1)

U.N. CLASSIFICATION CODE: 1.4S

<u>REFERENCE NUMBER</u>	<u>PRODUCT DESIGNATION/PART NUMBER</u>
EX-9512109	#756-292
EX-9601006	550563
EX-9601020	#759-994

Note 1 - This classification is only valid when the igniters are packaged as follows: Inner Packaging: Receptacles, fiberboard, containing one igniter each. Intermediate Packaging: Dividers, corrugated fiberboard, containing one igniter per cell. Outer Packaging: Specification 4G fiberboard box containing not more than twenty igniters each.

Approved by:


Alan I. Roberts
Associate Administrator
for Hazardous Materials Safety

JAN 17 1996

(DATE)

BP-3S Primary Igniter



Part Number	Type	CE Number	Class	ECCN	UN No.	HTS Class	D.O.T. / EX #
H437442200	Igniter	CE0519	1.4S	1C992.F	0454	3603009000	EX9512109

Proper Shipping Name: Igniters

Technical Information

Application:

Primary igniter for oilfield applications used to initiate a secondary igniter or power charge.

Explosive Content per Charge:

Net Explosive Weight: 1.200 grams

Cartridge Type

Primary igniter used to initiate a secondary igniter or power charge.

Pressure Rating:

Not Applicable.

Temperature Rating for 1 hour:

400°F 205°C

Shelf Life:

Unopened packages have a 5 year shelf life when stored at proper temperatures.

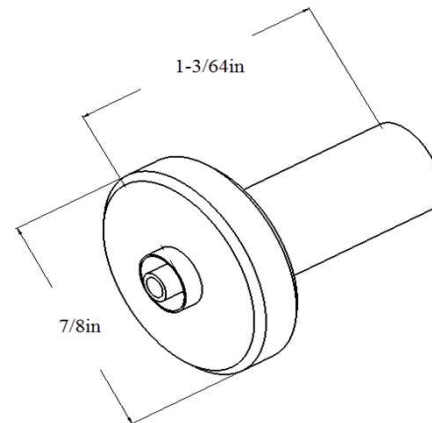
23°F → 86°F

-5°C → 30°C

Disposal:

Power Charges must be disposed of safely and in accordance with local regulations.

Technical Drawing & Photo



Packaging Information

Quantity per box:	20	
Net Explosive Weight per Box:	0.05 lb	24.00 g
Gross Weight per Igniter:	0.03 lb	18.14 g
Gross Weight per Box:	1.8 lb	0.816 kg
Net Weight per Box:	0.66 lb	0.3 kg
Type of Box:	Fibreboard	
Dimensions of box:	12 X 6 X 4.5	in
	30.48 X 15.24 X 11.43	cm

Baker Hughes Ballistics
35372 Betka Road, Hempstead, TX 77445
01-281-604-3000

BP-5S Primary Igniter



Part Number	Type	CE Number	Class	ECCN	UN No.	HTS Class	D.O.T. / EX #
H437440001	Igniter	CE0519	1.4S	1C992.F	0454	3603009000	EX9601020

Proper Shipping Name: Igniters

Technical Information

Application:

Primary igniter for oilfield applications used to initiate a secondary igniter or power charge.

Explosive Content per Charge:

Net Explosive Weight: 1.200 grams

Cartridge Type

Primary igniter used to initiate a secondary igniter or power charge.

Pressure Rating:

Not Applicable.

Temperature Rating for 1 hour:

400°F 205°C

Shelf Life:

Unopened packages have a 5 year shelf life when stored at proper temperatures.

23°F → 86°F

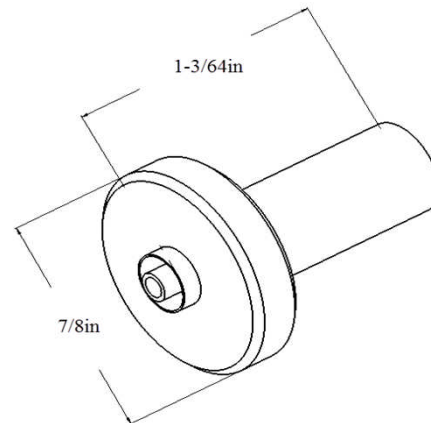
-5°C → 30°C

Disposal:

Power Charges must be disposed of safely and in accordance with local regulations.

Baker Hughes Ballistics
35372 Betka Road, Hempstead, TX 77445
01-281-604-3000

Technical Drawing & Photo



Packaging Information

Quantity per box:	20	
Net Explosive Weight per Box:	0.05 lb	24.00 g
Gross Weight per Igniter:	0.03 lb	18.14 g
Gross Weight per Box:	1.9 lb	0.861 kg
Net Weight per Box:	0.661 lb	0.3 kg
Type of Box:	Fibreboard	
Dimensions of box:	12 X 6 X 4.5	in
	30.48 X 15.24 X 11.43	cm



Pro-Pack Testing Laboratory, Inc.

2385 AMANN DRIVE
BELLEVILLE, ILLINOIS 62220
Phone 618-277-1160
Fax 618-277-1163
www.propacktestlab.com

Test Report No.: 15-03-03

Date of Report: March 25, 2015

**DEPARTMENT OF TRANSPORTATION
PERFORMANCE ORIENTED PACKAGE
TESTING CERTIFICATION**

Testing Performed by

Pro-Pack Testing Laboratory, Inc.
2385 Amann Drive
Belleville, IL 62220

Pro-Pack Testing Laboratory, Inc. is a current
DOT UN Third-Party Certification Agency Under § 107.403

Testing Performed for

Baker Hughes Oilfield Operations
6192 AR 203 Hwy
Hampton, AR 71744

Contact:

Susan Martinez

Purpose

Performance Oriented Package Testing of a UN 4G Fiberboard Box
with 40 Plastic Bags of a Hazardous Solid

Pack ID Pratt Box/Primary Igniters; BP-3S, BP5

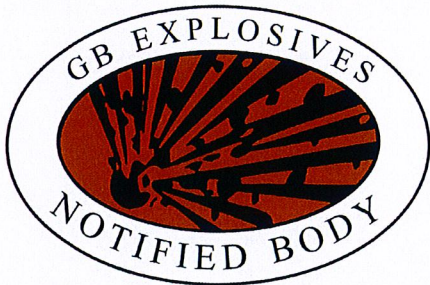
4G / Y1.4 / S / ** / USA / +AI 4606

NEW MARKINGS

Signature of Certifying Individual: _____

Manuel Rosa, Jr.
CPP, CPLP
President

** = Last two digits of year pack was manufactured



GB Explosives Notified Body, Health & Safety Laboratory, Harpur Hill, Buxton, Derbyshire, SK17 9JN, United Kingdom
Tel: +44 (0)1298 218150 Email: enb@hsl.gsi.gov.uk www.hsl.gov.uk

CERTIFICATION OF EXPLOSIVES UNDER G.B. STATUTORY INSTRUMENT No. 2714

APPROVAL TO AFFIX THE CE MARK AND THE IDENTIFICATION NUMBER OF THE EXPLOSIVES NOTIFIED BODY (0519)

Being a Notified Body in accordance with the G.B. Statutory Instrument No. 2714 and the Directive 93/15/EEC of 5 April 1993 on the harmonization of the provisions relating to the placing on the market and supervision of explosives for civil uses, the Explosives Notified Body (ENB) hereby grants approval for the CE mark and the Identification Number (0519) of the ENB to be affixed to the product described below. The approval is granted subject to the ENB's Terms and Conditions and to the use of Module D to demonstrate conformity to type.


Details of Explosive Product for which Approval for Issue of CE mark is Granted

Product Type: Propellant

Product Name: IGNITERS AND POWER CHARGES as specified in Annex 1 to EC Type Examination Certificate ENB/P/081/15 (Issue 3) dated 11 June 2015.

Manufacturer's Name and Address: Baker Oil Tools, BHT Products, Rt. 1 Box 196, Hampton, Arkansas 71744, USA and Baker Hughes, 35372 Betka Rd, Hempstead, TX 77445, USA.

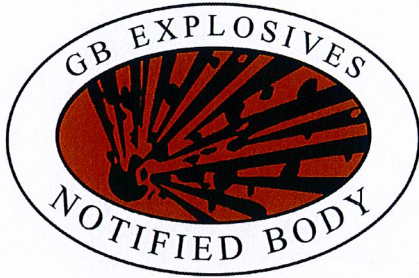
Applicant's Name and Address: Baker Hughes, 35372 Betka Rd, Hempstead, TX 77445, USA.

Signed 

Director, GB Explosives Notified Body

11 June 2015

Issue Number: 3



GB Explosives Notified Body, Health & Safety Laboratory, Harpur Hill, Buxton, Derbyshire, SK17 9JN, United Kingdom
Tel: +44 (0)1298 218150 Email: enb@hsl.gsi.gov.uk www.hsl.gov.uk

EC TYPE EXAMINATION CERTIFICATE

NOTIFIED BODY NO: 0519

CERTIFICATE NO: ENB/P/081/15 Issue 3

- 1. Product Type:** Propellant.
- 2. Product Name:** IGNITERS AND POWER CHARGES as listed in Annex 1 to this certificate.
- 3. Manufacturer's Name and Address:** Baker Oil Tools, BHT Products, Rt. 1 Box 196, Hampton, Arkansas 71744, USA and Baker Hughes, 35372 Betka Rd, Hempstead, TX 77445, USA.
- 4. Applicant's Name and Address:** Baker Hughes, 35372 Betka Rd, Hempstead, TX 77445, USA.
- 5. Attachments to this Certificate:** Annex 1: products covered by this certificate; Annex 2: list of technical documents examined.

Being a notified body in accordance with the GB Statutory Instrument No 2714 (1993) and Directive 93/15/EEC of 5 April 1993 on the harmonization of the provisions relating to the placing on the market and supervision of explosives for civil uses, the Explosives Notified Body certifies that the above type of product has been examined using Module B of the system for attesting conformity and has been found to conform with the manufacturer's specifications for the type and with the relevant requirements of the Statutory Instrument and the Directive.

A handwritten signature in black ink, appearing to read 'SG Myatt', is written over a light blue horizontal line.

Dr SG Myatt
Director, GB Explosives Notified Body

11 June 2015

ANNEX 1 TO EC TYPE EXAMINATION CERTIFICATE ENB/P/081/15 Issue 3

Baker Oil Tools, BHT Products, Rt. 1 Box 196, Hampton, Arkansas 71744, USA.

Igniters

H437442200, BP-3S Primary Igniter
H437444200, BP-4S Primary Igniter
H437440001, BP-5S Primary Igniter
H437431000, Secondary Igniter
H437461000, E-12 Igniter

Power Charges

H437665225, #05 Low Temp Slow Set Power Charge
H437660700, #07 Slow Set Power Charge
H437660010, #10 Slow Set Power Charge
H437660020, #20 Slow Set Power Charge
H437660550, #05 Slow Set Power Charge

Baker Hughes, 35372 Betka Rd, Hempstead, TX 77445, USA

Igniters

H437442200, BP-3S Primary Igniter
H437440001, BP-5S Primary Igniter
H437431000, Secondary Igniter
H437461000, E-12 Igniter

Power Charges

H437665225, #05 Low Temp Slow Set Power Charge
H437660010, #10 Slow Set Power Charge
H437660020, #20 Slow Set Power Charge
H437660550, #05 Slow Set Power Charge

ANNEX 2 TO EC TYPE EXAMINATION CERTIFICATE ENB/P/081/15 Issue 3

LIST OF TECHNICAL DOCUMENTS EXAMINED

1. Baker Oil Tools, drawings of the power charges.
2. Baker Oil Tools, drawings of the igniters.
3. Baker Oil Tools, photographs of the power charges and their packaging.
4. Baker Oil Tools, photographs of the igniters and their packaging.
5. Baker Oil Tools, shipping records for igniters and power charges.
6. Baker Oil Tools, notes on ENB Compliance Checklist for Propellants.
7. Baker Oil Tools, notes on ENB Compliance Checklist for General and Special Safety Requirements.
8. ENB/01/030, Baker Atlas, notes on service history of chemical cutter.
9. Hummel Croton Inc, South Plainfield, NJ, Data Sheet, Strontium Nitrate.
10. Sartomer Company, Exton, PA, Product Bulletin and Certificate of Compliance, Hydroxyl Terminated Polybutadiene Resin.
11. Hummel Croton Inc, South Plainfield, NJ, Data Sheet, Oxamide, Purified.
12. Hummel Croton Inc, South Plainfield, NJ, Data Sheet, Sulfur.
13. NORIT Americas Inc, Atlanta, GA, Datasheet, NORIT PAC 20B Powdered Activated Carbon.
14. Hummel Croton Inc, South Plainfield, NJ, Data Sheet, Calcium Resinate.
15. Hummel Croton Inc, South Plainfield, NJ, Data Sheet, Graphite.
16. Hummel Croton Inc, South Plainfield, NJ, Data Sheet, Barium Chromate.
17. Hummel Croton Inc, South Plainfield, NJ, Data Sheet, Boron Powder (Amorphous).
18. Hummel Croton Inc, South Plainfield, NJ, Data Sheet, Potassium Perchlorate.

19. Hoechst Celanese, Dallas, TX, Sales Specifications, Methyl Ethyl Ketone.
20. American Gilsonite Company, Gilsonite Information Bulletin, Gisonite GP Grade.
21. Tauber Petrochemical Company, Houston TX, Product Data Sheet, Toluene.
22. Cognis Corporation, Cincinnati, OH, Material Safety Data Sheet for DDI 1410, Aliphatic Diisocyanate.
23. Cognis Corporation, Kankakee, IL, Certificate of Analysis, DDI 1410.
24. U.S. Military Specification MIL-P-223B, Amendment 2 (MU), Military Specification, Powder, Black, 30 August 1968.
25. BHT Products, Standard Operating Procedure BHT 9.2 Rev. C, Baker #05 Slow Set Power Charge, 25 June 2003.
26. BHT Products, Standard Operating Procedure BHT 9.2.1, Baker #05 Low Temp Slow Set Power Charge, 2 May 2002.
27. BHT Products, Standard Operating Procedure BHT 9.4 Rev. B, Baker #10 Slow Set Power Charge, 5 September 2002.
28. BHT Products, Standard Operating Procedure BHT 9.5 Rev. B, Baker #20 Standard Power Charge, 5 September 2002.
29. BHT Products, Standard Operating Procedure BHT 9.6 Rev. B, Baker #20 Slow Set Power Charge, 5 September 2002.
30. BHT Products, Standard Operating Procedure 9.18 Baker #07 Slow Set Power Charge, 5 March 2003.
31. BHT Products, Standard Operating Procedure BHT 9.7.1, Baker Secondary Igniter, 11 July 2002.
32. BHT Products, Standard Operating Procedure BHT 9.13 Rev. A, Baker Secondary Powder Part No. 19003, 10 April 2002.
33. BHT Products, Standard Operating Procedure BHT 9.8, Baker #BP-3S Igniter, 1 June 2001.
34. BHT Products, Standard Operating Procedure BHT 9.9, Baker #BP-4S Igniter, 16 April 2001.

35. BHT Products, Standard Operating Procedure BHT 9.10, Western Atlas Ignition Cartridge No. (E12 Ign. Ctg.), 21 March 2003.
36. BHT Products, Standard Operating Procedure BHT 9.16, Test Procedure for Power Charges, 27 August 2001.
37. Universal Tech Corporation, Riverton, Kansas, Laboratory Report No. 02069, Cap, Impact and Friction Sensitivity, Small-scale Burn, and Thermal Stability Tests on Slow Set Compound, 1 November 2002.
38. Canada Centre for Mineral and Energy Technology, Ottawa, Canada, CERL Report No. 0012, Secondary Igniters, February 1995.
39. Canada Centre for Mineral and Energy Technology, Ottawa, Canada, CERL Report No. 0013, BP-4 Primary Igniters, February 1995.
40. Canada Centre for Mineral and Energy Technology, Ottawa, Canada, CERL Report No. 0014, #05 Standard Power Charges, February 1995.
41. ENB/01/030, Baker Atlas, Cased Hole Operations Manual, Volume 2.
42. Baker Oil Tools, Remedial Systems Technical Unit No. 4190, Baker Slow-Set Power Charge, Standard Power Charge, Secondary Igniter, Model BP-3S and BP-4S Igniter.
43. Baker Oil Tools, Remedial Systems Technical Unit No. 4180, Model E-4 Wireline Pressure Setting Assembly Product Family No. H43702.
44. Baker Oil Tools, Remedial Systems Technical Unit No. 4210, Model E-5 Wireline Pressure Setting Assembly, Size 05 Product Family No. H43705.
45. Baker Oil Tools, Material Safety Data Sheet, #05, #07, #10 and #20 Slow Set Power Charges, 6 March 2003.
46. Baker Oil Tools, Material Safety Data Sheet, Secondary Igniter, 17 August 2000.
47. Baker Oil Tools, Material Safety Data Sheet, BP-3S Primary Igniter, 17 August 2000.
48. Baker Oil Tools, Material Safety Data Sheet, BP-3S Primary Igniter, 17 August 2000.
49. Baker Atlas, Material Safety Data Sheet, Baker Atlas Igniter, 17 August 2000.

50. Baker Oil Tools, Report on Engineering Test No. 3F1-203-003H, November 2003.
51. Baker Oil Tools, Report on Engineering Test No. 3F2-1-109H, February 2003.
52. Baker Oil Tools, Report on Engineering Test No. 7H4-102-122H, November 2002.
53. Baker Oil Tools , Test Summary of the Development of the #07 Power Charge for Use with the E-6 WLPSA, 28 April 2003.
54. Western Atlas International, Atlas Wireline Services, Memoranda dated 25 June 2003 and 5 August 2003 concerning tests on the E-12 Igniter.
55. Baker Oil Tools, BHT Products, First Alert Incident Detail, 15 May 2002.
56. Baker Hughes, BHI Hampton Facility, Product Work Instructions, Baker BP-5S Igniter, HAM-9.14 (E86).
57. Baker Hughes, Service Unit, Baker Slow-Set Power Charge, Standard Power Charge, Secondary Igniter, BP-3S, BP-4S and BP-5S Igniter, SU 4190 (E86).
58. Baker Hughes, Drawing Primary Firing Head Igniter, 759 994-Do Rev C9 (E86).
US Department of Transport, Classification of Explosives EX-9601020, dated 17 January 1996 (E86).
59. US Department of Transportation, Performance Orientated Package Testing Certification Test Report, dated 21 March 2008 (E86).
60. Baker Hughes, Material Safety Data Sheet BP-5S (E98).
61. Baker Hughes, Technical Data Sheet BP-5S (E98).
62. Secondary Igniter drawings , Secondary Igniter Manufacturing Procedure, Safety Data Sheet for ECO-Flash Intrinsic powder, Shipping Classification Document from SMS (SMS-3619-R1 Rev 0, October 14,2014) and Test and Analysis report from SMS for the secondary igniter pellets (SMS-3619-R1 Rev 0, October 14, 2014)
63. E-12 Igniter drawings, Manufacturing Procedure, BP-5S Primary Igniter drawings, Bill of Materials (BOM) and Assembly Procedure, BP-3S Primary Igniter drawings, BOM and assembly drawings, MSDS for BP-5S Primary Igniter, MSDS Goex Powder, Inc .
64. #05 Low Temperature Slow Set Power Charge drawings, BOM, Manufacturing Procedure and Technical Data Sheet.

65. #20 Slow-Set Power Charge drawings, BOM, Manufacturing Procedure and Technical data sheet.
66. #05 Slow-Set Power Charge drawings, BOM, Manufacturing Procedure and Technical data sheet.
67. #10 Slow-Set Power Charge drawings, BOM, Manufacturing Procedure and Technical data sheet.
68. Shipping Classification recommendation for Slow Set Power Charges (SMS-3619-R2 Rev 0, October 15, 2014. Test and Analysis Report from SMS(SMS-3619-R2 Rev 0).
69. UN 4G Fiberboard Box Packaging Testing, Pro-Pack Testing Laboratory.
70. MSDS Slow Set Power Charges.
71. Safety Data sheets, Poly bd R-45M, and Aliphayic Diisocyanate.
72. MSDS for Calcium Resinate, Sulfur, Strontium Nitrate and Oxamide.
73. Baker Hughes DSC Calorimeter report 26/6/2014 (E113a).
74. Primary Igniter QC Testing Procedure (E113d).
75. Safety Data sheets BP-3S Primary Igniter (E114a), BP-5S Primary Igniter (E114c) #05,#10,#20 Standard Power charge.
76. Safety Data Sheets for Slow Set Power charges (E119a).
77. Safety Data Sheet for Secondary Igniter (E119c).
78. Classification of Explosives from US Department of Transportation for Secondary Igniters Ref no: EX2015030650 , UN 0481 dated 29/4/2015 (E119b)
79. Classification of Explosives from US Department of Transportation Ref no: EX2015030653, UN0323, Slow set power charges dated 29/4/2015 (E119d)
80. Product Test Report #20 Slow Set Power Charge (E119e).
81. Safety Data Sheet ECO-Flash Intrinsic powder (MT-10114) from Mecano-Tech Inc.(E119f).
82. Test and Analysis report from SMS for the Igniter Propellant Powder from SMS (SMS-3619-R3 Rev 0) dated October 17, 2014.

83. Product Specification for Powder mix for Secondary Igniter and Certificate of Conformity (E119h)
84. Primary Igniter Test report BP-3S (dated 12/3/2015) (E121a)
85. Power Charge Test Reports (E121b)

Section 1. Identification

Product name : BP-3S PRIMARY IGNITER
Product code : 437-44-2200

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Not available.

Print date : 4/14/2015.

Validation date : 4/10/2015.

Version : 1

Supplier's details : Baker Hughes
35372 Betka Rd.
Hempstead, TX 77445

Emergency telephone number (with hours of operation) : Manufacturer: (800) 892-9965
CHEMTREC: (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : EXPLOSIVES - Division 1.4

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : Fire or projection hazard.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Wear face protection. Do not subject to grinding, shock, friction or any rough handling. Keep away from heat, sparks, open flames and hot surfaces. - No smoking.

Response : Explosion risk in case of fire. In case of fire: Evacuate area. DO NOT fight fire when fire reaches explosives.

Storage : Store in accordance with all local, regional, national and international regulations.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Ingredient name	%	CAS number
BP-3S PRIMARY IGNITER	90 - 100	

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 10 minutes. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Explosive material with fire or projection hazard. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : No specific data.

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. First move people out of line-of-sight of the scene and away from windows. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Fight fire from protected location or maximum possible distance. Do not fight fire when it reaches the material. Withdraw from fire and let it burn.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Fire-fighters' protective clothing will only provide limited protection.

Remark :

Remark : Explosive Temperature 427°C (801°F) Explosive material with fire or projection hazard.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Accidental releases pose a serious fire or explosion hazard. Immediately contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

- Large spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Dike spill area and do not allow product to reach sewage system or surface or ground water. Notify any reportable spill to authorities. (See section 12 for environmental risks and 13 for disposal information.) Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid shock and friction. Use only with adequate ventilation. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Additional information

Explosive material with fire or projection hazard.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredients:	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	Notations
No exposure limit value known.											

Consult local authorities for acceptable exposure limits.

Only components of this product with established exposure limits appear in the box above.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

- Appropriate engineering controls** : Engineering controls may be required to control the primary or secondary risks associated with this product. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Use explosion-proof ventilation equipment.

Individual protection measures

Section 8. Exposure controls/personal protection

Hygiene measures	: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	: Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.
Hand protection	: Chemical-resistant gloves.
Skin protection	: Wear long sleeves to prevent repeated or prolonged skin contact.
Respiratory protection	: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state	: Solid. [7/8" long x 0.384 " diameter with attached head measuring 0.345" long x 0.875" diameter, sealed with red glyptal]
Color	: Silver.
Odor	: Odorless.
Odor threshold	: Not available.
pH	: Not available.
Melting/freezing point	: Not available.
Boiling point	: Not available.
Initial Boiling Point	: Not available.
Flash point	: Closed cup: Not applicable.
Burning time	: Not available.
Burning rate	: Not available.
Evaporation rate	: Not available.
Flammability (solid, gas)	:
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: Not available.
Density	: Not available.
Solubility in water	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
VOC	: Not available.
Pour Point	: Not available.

Section 10. Stability and reactivity

Reactivity	: This product presents only a small hazard in the event of ignition or initiation, the effects largely being confined to the package with no expected projection of fragments of appreciable size or range.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Avoid shock and friction.
Incompatible materials	: Extremely reactive or incompatible with the following materials: metals and acids.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

No applicable toxicity data

Irritation/Corrosion

No applicable toxicity data

Sensitization

No applicable toxicity data

Mutagenicity

No applicable toxicity data

Carcinogenicity

No applicable toxicity data

Reproductive toxicity

No applicable toxicity data

Teratogenicity

No applicable toxicity data

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Section 11. Toxicological information

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

No applicable toxicity data

Persistence and degradability





Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN0454	UN0454	UN0454	UN0454
UN proper shipping name	IGNITERS	IGNITERS	IGNITERS	IGNITERS
Transport hazard class(es)	1.4S 	1.4S 	1.4S 	1.4S 
Packing group	II	II	II	II
Environmental hazards	No.	No.	No.	No.
Additional information	(Packaged 20 units max. per box w/dividers separating each unit)	-	-	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : Not available.

Section 15. Regulatory information

U.S. Federal regulations :

- TSCA 12(b) one-time export:** No products were found.
- TSCA 12(b) annual export notification:** No products were found.
- United States inventory (TSCA 8b):** This material is listed or exempted.
- Clean Water Act (CWA) 307:** No products were found.
- Clean Water Act (CWA) 311:** No products were found.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

SARA 302/304 : No products were found.

SARA 311/312

Classification : Sudden release of pressure

SARA 313

Supplier notification : No products were found.

Canada

Section 15. Regulatory information

Canada (CEPA DSL): : Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	0
Flammability	2
Physical hazards	0
Personal protection	C

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



History

Date of printing : 4/14/2015.

☑ Indicates information that has changed from previously issued version.

Notice to reader

NOTE: The information on this MSDS is based on data which is considered to be accurate. Baker Hughes, Inc, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This MSDS was prepared and is to be used for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

Section 1. Identification

Product name : BP-5S PRIMARY IGNITER
Product code : H437440001

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Not available.

Print date : 4/14/2015.

Validation date : 12/10/2014.

Version : 1

Supplier's details : Baker Hughes
35372 Betka Rd.
Hempstead, TX 77445

Emergency telephone number (with hours of operation) : Manufacturer: (800) 892-9965
CHEMTREC: (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : EXPLOSIVES - Division 1.4

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : Fire or projection hazard.

Precautionary statements

Prevention : Wear face protection. Do not subject to grinding, shock, friction or any rough handling. Keep away from heat, sparks, open flames and hot surfaces. - No smoking.

Response : Explosion risk in case of fire. In case of fire: Evacuate area. DO NOT fight fire when fire reaches explosives.

Storage : Store in accordance with all local, regional, national and international regulations.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
No hazardous ingredient		

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 10 minutes. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Explosive material with fire or projection hazard. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : No specific data.

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. First move people out of line-of-sight of the scene and away from windows. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Fight fire from protected location or maximum possible distance. Do not fight fire when it reaches the material. Withdraw from fire and let it burn.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Fire-fighters' protective clothing will only provide limited protection.

Remark :

Remark : Explosive Temperature 427°C (801°F) Explosive material with fire or projection hazard.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Accidental releases pose a serious fire or explosion hazard. Immediately contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

- Large spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Dike spill area and do not allow product to reach sewage system or surface or ground water. Notify any reportable spill to authorities. (See section 12 for environmental risks and 13 for disposal information.) Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid shock and friction. Use only with adequate ventilation. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Additional information

Explosive material with fire or projection hazard.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredients:	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	Notations
No exposure limit value known.											

Consult local authorities for acceptable exposure limits.

Only components of this product with established exposure limits appear in the box above.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

- Appropriate engineering controls** : Engineering controls may be required to control the primary or secondary risks associated with this product. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Use explosion-proof ventilation equipment.

Individual protection measures

Section 8. Exposure controls/personal protection

Hygiene measures	: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	: Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.
Hand protection	: Chemical-resistant gloves.
Skin protection	: Wear long sleeves to prevent repeated or prolonged skin contact.
Respiratory protection	: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state	: Solid. [Silver color case. Overall length of 1.361", diameter of 0.384" with attached head measuring 0.875", sealed with red glyptal.]
Color	: Silver.
Odor	: Odorless.
Odor threshold	: Not available.
pH	: Not available.
Melting/freezing point	: Not available.
Boiling point	: Not available.
Initial Boiling Point	: Not available.
Flash point	: Not available.
Burning time	: Not available.
Burning rate	: Not available.
Evaporation rate	: Not available.
Flammability (solid, gas)	:
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: Not available.
Density	: Not available.
Solubility in water	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
VOC	: Not available.
Pour Point	: Not available.

Section 10. Stability and reactivity

Reactivity	: This product presents only a small hazard in the event of ignition or initiation, the effects largely being confined to the package with no expected projection of fragments of appreciable size or range.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Avoid shock and friction.
Incompatible materials	: Extremely reactive or incompatible with the following materials: metals and acids.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

No applicable toxicity data

Irritation/Corrosion

No applicable toxicity data

Sensitization

No applicable toxicity data

Mutagenicity

No applicable toxicity data

Carcinogenicity

No applicable toxicity data

Reproductive toxicity

No applicable toxicity data

Teratogenicity

No applicable toxicity data

Specific target organ toxicity (single exposure)

Not applicable.

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Section 11. Toxicological information

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

No applicable toxicity data

Persistence and degradability





Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN0454	UN0454	UN0454	UN0454
UN proper shipping name	IGNITERS	IGNITERS	IGNITERS	IGNITERS
Transport hazard class(es)	1.4S 	1.4S 	1.4S 	1.4S 
Packing group	II	II	II	II
Environmental hazards	No.	No.	No.	No.
Additional information	(Packaged 20 units max. per box w/dividers separating each unit)	-	-	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not available.

North-America NAERG : Not available.

Section 15. Regulatory information

U.S. Federal regulations :

- TSCA 12(b) one-time export:** No products were found.
- TSCA 12(b) annual export notification:** No products were found.
- United States inventory (TSCA 8b):** Not determined.
- Clean Water Act (CWA) 307:** No products were found.
- Clean Water Act (CWA) 311:** No products were found.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

SARA 302/304 : No products were found.

SARA 311/312 Classification : Sudden release of pressure

SARA 313

Supplier notification : No products were found.

Canada

Section 15. Regulatory information

Canada (CEPA DSL): : Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	0
Flammability	2
Physical hazards	0
Personal protection	C

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



History

Date of printing : 4/14/2015.

☑ Indicates information that has changed from previously issued version.

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This MSDS was prepared and is to be used for this product. If the product is used as a component in another product, this MSDS information may not be applicable.