Mesbah Energy

2018

Product **Catalogue**

www.isotope.ir

Introduction

Mesbah Energy Co. is a leading producer of high quality heavy water in the Middle East and is operating under the authority of Atomic Energy Organization of Iran (AEOI), founded in 1998 in order to supply the required heavy water for Arak heavy water reactor. The production capacity of the plant is 20 tons - pure heavy water with the isotopic concentration of 99.95% - per year.

Following the successful operation of the heavy water plant, Mesbah Energy developed the number of isotopic and deuterium labeled compounds using its own heavy water as its deuterium source. As a result, 54 different products have been currently produced by the company and the studies related to the production of stable isotopes such as ^{18}O, ^{13}C, ^{34}S, ^{15}N have been carried out and these products will be released in the near future.

Table of **Content**

Core
Purpose

To spread prosperity through innovation in knowledge and technology.

Vision

To become a reliable international company in the field of knowledge and production of stable isotopes.

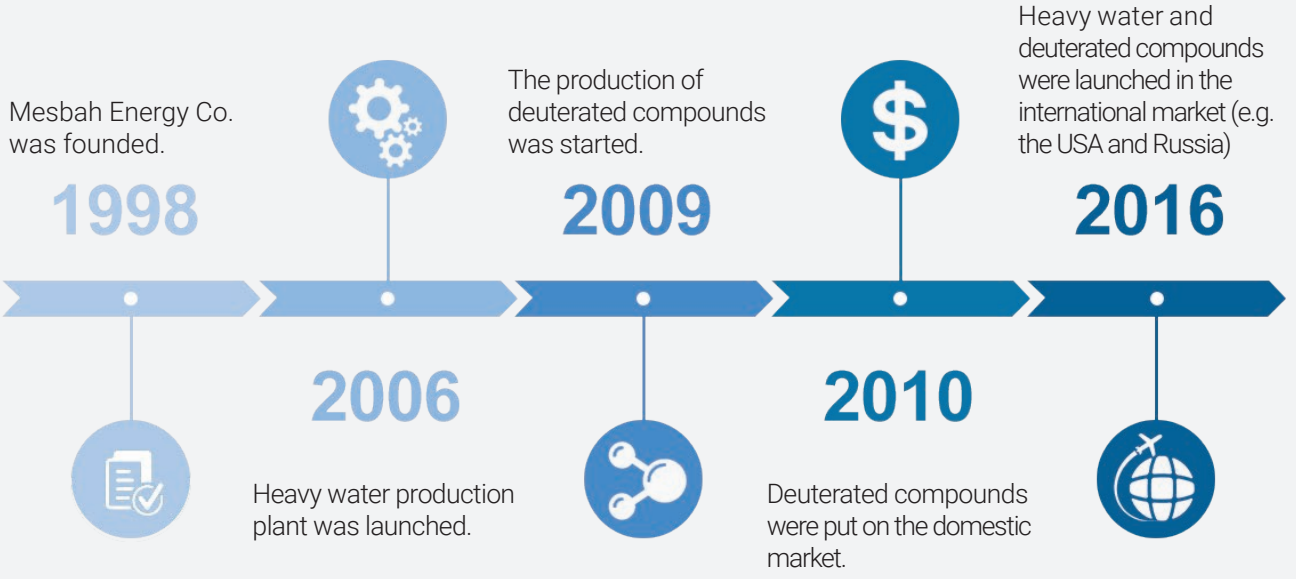
Core
Values

- Individual & organizational excellence
- Self-esteem & knowledge-orientation
- Preserving human dignity
- Being pioneer and leader
- Sustainable development & resource conservation

Competitive
Advantages

- **High quality products** - We are committed to providing high quality and pure products in order to meet the requirements of our customers.
- **Virgin Deuterium Oxide** - Our Deuterium Oxide is virgin and free from Tritium contamination.
- **Affordable prices** - We keep our prices as low as possible to ensure you are getting the best prices. In addition, quantity discount for bulk orders is allowed and open to negotiation.
- **Bulk offer** - To match your bulk requirements we can provide you with the products in large quantities.

Our **History**


Mesbah Energy Co. was founded.
1998
2006
Heavy water production plant was launched.
The production of deuterated compounds was started.
2009
2010
Deuterated compounds were put on the domestic market.
Heavy water and deuterated compounds were launched in the international market (e.g. the USA and Russia)
2016

Our
Products

Acetic acid-d_4 ≥ 98.5 atom%D

CAS 1186-52-3 **UN 2789**

$C_2D_4O_2$
FW (gr): 64.08
mp (°C): 15-16
bp (°C): 115.5
Density at 25°C (gr/cm^3): 1.119

Catalogue No.	Pack
1-016-25ML	25 ml
1-016-50ML	50 ml

Acetone-d_6 ≥ 99.5 atom%D

CAS 666-52-4 **UN 1090**

C_3D_6O
FW (gr): 64.12
mp (°C): -93.8
bp (°C): 55.5
Density at 25°C (gr/cm^3): 0.872

Catalogue No.	Pack
1-001-10ML	10 ml
1-001-25ML	25 ml
1-001-50ML	50 ml
1-001-100ML	100 ml
1-001-1L	1 L
1-001-2.5L	2.5 L

Acetone-d_6 ≥ 99.8 atom%D

CAS 666-52-4 **UN 1090**

C_3D_6O
FW (gr): 64.12
mp (°C): -93.8
bp (°C): 55.5
Density at 25°C (gr/cm^3): 0.872

Catalogue No.	Pack
1-040-10ML	10 ml
1-040-25ML	25 ml
1-040-50ML	50 ml
1-040-100ML	100 ml
1-040-1L	1 L
1-040-2.5L	2.5 L

Acetonitrile-d_3 ≥ 99.5 atom%D

CAS 2206-26-0 **UN 1648**

C_2D_3N
FW (gr): 44.07
mp (°C): -48
bp (°C): 80.7
Density at 25°C (gr/cm^3): 0.844

Catalogue No.	Pack
1-003-25ML	25 ml
1-003-50ML	50 ml

Alanine-d_4 ≥ 97 atom%D

CAS 18806-29-6 **UN 1075**

$C_3D_4H_3NO_2$
FW (gr): 93.118
mp (°C): 289 (dec.)

Catalogue No.	Pack
1-038-1G	1 gr
1-038-5G	5 gr

Alanine-d_7 ≥ 97 atom%D

CAS 302-72-7 (Unlabeled) **UN 1075**

$C_3D_7NO_2$
FW (gr): 96.14
mp (°C): 300 (dec.)

Catalogue No.	Pack
1-039-1G	1 gr
1-039-5G	5 gr

Boric acid-d_3 ≥ 98 atom%D

CAS 14149-58-7

BD_3O_3
FW (gr): 64.85
mp (°C): 169

Catalogue No.	Pack
1-025-5G	5 gr
1-025-10G	10 gr
1-025-25G	25 gr

Chloroform-d ≥ 99.5 atom%D

CAS 865-49-6 **UN 1888** **Stabilized with Ag**

CCl_3D
FW (gr): 120.38
mp (°C): -64
bp (°C): 60.9
Density at 25°C (gr/cm^3): 1.5

Catalogue No.	Pack
1-002-10ML	10 ml
1-002-25ML	25 ml
1-002-50ML	50 ml
1-002-100ML	100 ml
1-002-1L	1 L
1-002-2.5L	2.5 L
1-002-10G	10 gr
1-002-25G	25 gr
1-002-50G	50 gr
1-002-100G	100 gr
1-002-1KG	1 kg
1-002-2.5KG	2.5 kg

Chloroform-d ≥ 99.8 atom%D

CAS 865-49-6 **UN 1888** **Stabilized with Ag**

CCl_3D

FW (gr): 120.38

mp (°C): -64

bp (°C): 60.9

Density at 25°C (gr/cm^3): 1.5

Catalogue No.	Pack
1-043-10ML	10 ml
1-043-25ML	25 ml
1-043-50ML	50 ml
1-043-100ML	100 ml
1-043-1L	1 L
1-043-2.5L	2.5 L
1-043-10G	10 gr
1-043-25G	25 gr
1-043-50G	50 gr
1-043-100G	100 gr
1-043-1KG	1 kg
1-043-2.5KG	2.5 kg

Chloroform-d ≥ 99.8 atom%D, contains 0.03% v/v TMS

CAS 865-49-6 **UN 1888** **Stabilized with Ag**

CCl_3D

FW (gr): 120.38
mp (°C): -64
bp (°C): 60.9
Density at 25°C (gr/cm^3): 1.5

Catalogue No.	Pack
1-046-10ML	10 ml
1-046-25ML	25 ml
1-046-50ML	50 ml
1-046-100ML	100 ml
1-046-1L	1 L
1-046-2.5L	2.5 L
1-046-10G	10 gr
1-046-25G	25 gr
1-046-50G	50 gr
1-046-100G	100 gr
1-046-1KG	1 kg
1-046-2.5KG	2.5 kg

Deuterium chloride 20 wt% solution in D_2O min 99.8 atom%D

CAS 7698-05-7 **UN 1789**

DCl

FW (gr): 37.47
Density at 25°C (gr/cm^3): 1.2

Catalogue No.	Pack
1-009-10ML	10 ml
1-009-25ML	25 ml

Deuterium chloride 1.0 M solution in D_2O min 99.8 atom%D

CAS 7698-05-7 **UN 1789**

DCl	**Catalogue No.**	**Pack**
FW (gr): 37.47	1-010-10ML	10 ml
Density at 25°C (gr/cm^3): 1.14	1-010-25ML	25 ml

Deuterium chloride 0.1 M solution in D_2O min 99.8 atom%D

CAS 7698-05-7 **UN 1789**

DCl	**Catalogue No.**	**Pack**
FW (gr): 37.47	1-011-10ML	10 ml
Density at 25°C (gr/cm^3): 1.11	1-011-25ML	25 ml

Deuterium–depleted water (25 ppm)

CAS 7732-18-5

H_2O	**Catalogue No.**	**Pack**
D_2O (mg/L): 25	2-003-1.5L	1.5 L
EC (µs/cm) < 290		
pH: 7-7.5		
Hardness (ppm as $CaCO_3$) < 100		
Turbidity (NTU) < 0.3		

Deuterium–depleted water (30 ppm)

CAS 7732-18-5

H_2O

D_2O (mg/L): 30
EC (µs/cm) < 290
pH: 7-7.5
Hardness (ppm as $CaCO_3$) < 100
Turbidity (NTU) < 0.3

Catalogue No.	Pack
2-001-1.5L	1.5 L

Deuterium–depleted water (105 ppm)

CAS 7732-18-5

H_2O

D_2O (mg/L): 105
EC (µs/cm) < 360
pH: 7-7.5
Hardness (ppm as $CaCO_3$) < 140
Turbidity (NTU) < 0.3

Catalogue No.	Pack
2-002-1.5L	1.5 L

Deuterium–depleted water (120 ppm)

CAS 7732-18-5

H_2O

D_2O (mg/L): 120
EC (µs/cm) < 430
pH: 7-7.5
Hardness (ppm as $CaCO_3$) < 170
Turbidity (NTU) < 0.3

Catalogue No.	Pack
2-004-1.5L	1.5 L

Deuterium oxide ≥ 99.75 atom%D

CAS 7789-20-0 **UN 1957** **Reactor grade heavy water as ASTM D-2032**

D_2O

FW (gr): 20.03
EC (µs/cm) ≤ 15
Chloride (ppm) ≤ 0.1
Total Solid (mg/L) ≤ 12
$KMnO_4$ Consumption (gr/ml) ≤ $1x10^{-5}$
Turbidity (NTU) ≤ 5

Catalogue No.	Pack
1-031-50KG	50 kg

Deuterium oxide ≥ 99.8 atom%D

CAS 7789-20-0 **UN 1957** **Ultra-pure heavy water**

D_2O

FW (gr): 20.03
EC (µs/cm) ≤ 1
Chloride (ppb) ≤ 50
TOC (ppm) ≤ 2
Si (ppb as SiO_2) ≤ 30
Total Fe (ppb) ≤ 60
Turbidity (NTU) ≤ 2

Catalogue No.	Pack
1-032-20KG	20 kg
1-032-50KG	50 kg

Deuterium oxide ≥ 99.95 atom%D

CAS 7789-20-0 **UN 1957** **Ultra-pure heavy water**

D_2O

FW (gr): 20.03
EC (µs/cm) ≤ 1
Chloride (ppb) ≤ 50
TOC (ppm) ≤ 2
Si (ppb as SiO_2) ≤ 30
Total Fe (ppb) ≤ 60
Turbidity (NTU) ≤ 2

Catalogue No.	Pack
1-044-50KG	50 kg

Deuterium oxide ≥ 99.8 atom%D

CAS 7789-20-0 **UN 1957** **for NMR spectroscopy**

D_2O

FW (gr): 20.03
mp (°C): 3.81
bp (°C): 101.42
Density at 25°C (gr/cm^3): 1.107

Catalogue No.	Pack
1-004-10ML	10 ml
1-004-25ML	25 ml
1-004-50ML	50 ml
1-004-100ML	100 ml
1-004-1L	1 L
1-004-2.5L	2.5 L
1-004-10G	10 gr
1-004-25G	25 gr
1-004-50G	50 gr
1-004-100G	100 gr
1-004-1KG	1 kg
1-004-2.5KG	2.5 kg
1-004-50KG	50 kg

Deuterium oxide ≥ 99.95 atom%D

CAS 7789-20-0 **UN 1957** **for NMR spectroscopy**

D_2O

FW (gr): 20.03

mp (°C): 3.81

bp (°C): 101.42

Density at 25°C (gr/cm³): 1.107

Catalogue No.	Pack
1-033-10ML	10 ml
1-033-25ML	25 ml
1-033-50ML	50 ml
1-033-100ML	100 ml
1-033-1L	1 L
1-033-2.5L	2.5 L
1-033-10G	10 gr
1-033-25G	25 gr
1-033-50G	50 gr
1-033-100G	100 gr
1-033-1KG	1 kg
1-033-2.5KG	2.5 kg
1-033-50KG	50 kg

Deuterium peroxide 25 wt% solution in D_2O min 99.5 atom%D

CAS 6909-54-2 **UN 2014**

D_2O_2

FW (gr): 36.027

Density at 25°C (gr/cm³): 1.53

Catalogue No.	Pack
1-026-10ML	10 ml
1-026-25ML	25 ml
1-026-50ML	50 ml

Dichloromethane-d_2 ≥ 99.5 atom%D

CAS 1665-00-5 **UN 1593**

CD_2Cl_2
FW (gr): 86.95
mp (°C): -96.99
bp (°C): 40
Density at 25°C (gr/cm^3): 1.362

Catalogue No.	Pack
1-015-25ML	25 ml
1-015-50ML	50 ml

Dimethyl sulfoxide-d_6 ≥ 99.5 atom%D

CAS 2206-27-1

C_2D_6OS
FW (gr): 84.17
mp (°C): 18.45
bp (°C): 189
Density at 25°C (gr/cm^3): 1.19

Catalogue No.	Pack
1-005-10ML	10 ml
1-005-25ML	25 ml
1-005-50ML	50 ml
1-005-100ML	100 ml
1-005-1L	1 L
1-005-2.5L	2.5 L
1-005-10G	10 gr
1-005-25G	25 gr
1-005-50G	50 gr
1-005-100G	100 gr
1-005-1KG	1 kg
1-005-2.5KG	2.5 kg

Dimethyl sulfoxide-d_6 ≥ 99.8 atom%D

CAS 2206-27-1

C_2D_6OS

FW (gr): 84.17
mp (°C): 18.4
bp (°C): 189
Density at 25°C (gr/cm^3): 1.19

Catalogue No.	Pack
1-041-10ML	10 ml
1-041-25ML	25 ml
1-041-50ML	50 ml
1-041-100ML	100 ml
1-041-1L	1 L
1-041-2.5L	2.5 L
1-041-10G	10 gr
1-041-25G	25 gr
1-041-50G	50 gr
1-041-100G	100 gr
1-041-1KG	1 kg
1-041-2.5KG	2.5 kg

Dimethyl sulfoxide-d_6 ≥ 99.8 atom%D, contains 0.03% v/v TMS

CAS 2206-27-1

C_2D_6OS

FW (gr): 84.17
mp (°C): 18.4
bp (°C): 189
Density at 25°C (gr/cm^3): 1.19

Catalogue No.	Pack
1-045-10ML	10 ml
1-045-25ML	25 ml
1-045-50ML	50 ml
1-045-100ML	100 ml
1-045-1L	1 L
1-045-2.5L	2.5 L
1-045-10G	10 gr
1-045-25G	25 gr
1-045-50G	50 gr
1-045-100G	100 gr
1-045-1KG	1 kg
1-045-2.5KG	2.5 kg

Glycine-2,2-d_2 ≥ 98 atom%D

CAS 4896-75-7

$C_2D_2H_3NO_2$

FW (gr): 77.08
mp (°C): 240 (dec.)

Catalogue No.	Pack
1-036-1G	1 gr
1-036-5G	5 gr

Glycine-d_5 ≥ 98 atom%D

CAS 4896-77-9

$C_2D_5NO_2$
FW (gr): 80.01
mp (°C): 248 (dec.)

Catalogue No.	Pack
1-037-1G	1 gr
1-037-5G	5 gr

Iodoform-d ≥ 99 atom%D

CAS 2787-27-1

CDI_3
FW (gr): 394.74
mp (°C): 120-123

Catalogue No.	Pack
1-022-5G	5 gr
1-022-10G	10 gr
1-022-25G	25 gr

Iodomethane-d_3 ≥ 99.5 atom%D

CAS 865-50-9 **UN 2644** **Stabilized with Ag**

CD_3I
FW (gr): 144.96
mp (°C): -66.5
bp (°C): 42
Density at 25°C (gr/cm^3): 2.33

Catalogue No.	Pack
1-042-10ML	10 ml
1-042-25ML	25 ml

Iodomethane-d_3 ≥ 99.8 atom%D

CAS 865-50-9 **UN 2644** **Stabilized with Ag**

CD_3I
FW (gr): 144.96
mp (°C): -66.5
bp (°C): 42
Density at 25°C (gr/cm^3): 2.33

Catalogue No.	Pack
1-051-10ML	10 ml
1-051-25ML	25 ml

Isopropanol-d_6 ≥ 97 atom%D

CAS 3976-29-2 **UN 1219**

$C_3D_6H_2O$
FW (gr): 66.13
mp (°C): -90
bp (°C): 82
Density at 25°C (gr/cm^3): 0.86

Catalogue No.	Pack
1-035-10ML	10 ml
1-035-25ML	25 ml

Malonic acid-d_4 ≥ 99 atom%D

CAS 813-56-9

$C_3D_4O_4$
FW (gr): 108.09
mp (°C): 132-135

Catalogue No.	Pack
1-028-10G	10 gr
1-028-25G	25 gr

Mesitylene-d_{12} ≥ 99 atom%D

CAS 69441-16-3 **UN 2325**

C_9D_{12}
FW (gr): 132
mp (°C): -45
bp (°C): 165
Density at 25°C (gr/cm^3): 0.947

Catalogue No.	Pack
1-029-5ML	5 ml
1-029-10ML	10 ml
1-029-25ML	25 ml

Metformin-d_6-hydrochloride ≥ 99.8 atom%D

CAS 1185166-001-1

$C_4H_6D_6ClN_5$
FW (gr): 171.66
mp (°C) > 211

Catalogue No.	Pack
1-049-1MG	1 mg
1-049-5MG	5 mg
1-049-10MG	10 mg

Methanol-d_1 ≥ 99.5 atom%D

CAS 1455-13-6 **UN 1230**

CH_3OD
FW (gr): 33.05
mp (°C): -97.8
bp (°C): 65.5
Density at 25°C (gr/cm^3): 0.813

Catalogue No.	Pack
1-012-25ML	25 ml
1-012-50ML	50 ml

Methanol-d_4 ≥ 99.5 atom%D

CAS 811-98-3 **UN 1230**

CD_3OD
FW (gr): 36.07
mp (°C): -97.8
bp (°C): 65.5
Density at 25°C (gr/cm^3): 0.89

Catalogue No.	Pack
1-047-25ML	25 ml
1-047-50ML	50 ml

Methanol-d_4 ≥ 99.8 atom%D

CAS 811-98-3 **UN 1230**

CD_3OD
FW (gr): 36.07
mp (°C): -97.8
bp (°C): 65.5
Density at 25°C (gr/cm^3): 0.89

Catalogue No.	Pack
1-048-25ML	25 ml
1-048-50ML	50 ml

Methylamine-d_3 hydrochloride ≥ 99 atom%D

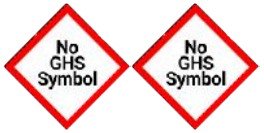
CAS 7436-22-8

CD_3NH_2HCl
FW (gr): 70.54
mp (°C): 232-234

Catalogue No.	Pack
1-050-1G	1 gr

Nicotinic acid-d_1 ≥ 98 atom%D

CAS 59-67-6 (Unlabeled)



$C_6H_4NDNO_2$
FW (gr): 124.12
mp (°C): 236-239

Catalogue No.	Pack
1-052-1G	1 gr
1-052-5G	5 gr

Nitromethane-d_3 ≥ 99.6 atom%D

CAS 13031-32-8 **UN 1261**

CD_3NO_2
FW (gr): 64.06
mp (°C): -29
bp (°C): 100
Density at 25°C (gr/cm^3): 1.183

Catalogue No.	Pack
1-034-10ML	10 ml
1-034-25ML	25 ml
1-034-50ML	50 ml

Oxalic acid-d_2 ≥ 99 atom%D

CAS 2065-73-8 **UN 3261**

$C_2D_2O_4$
FW (gr): 92.05
mp (°C): 190 (dec.)

Catalogue No.	Pack
1-021-5G	5 gr
1-021-10G	10 gr
1-021-25G	25 gr

Phosphoric acid-d_3 85 wt% solution in D_2O min 99.8 atom%D

CAS 14335-33-2 **UN 1805**

D_3PO_4	**Catalogue No.**	**Pack**
FW (gr): 101.02	1-019-10ML	10 ml
bp (°C): 158	1-019-25ML	25 ml
Density at 25°C (gr/cm^3): 1.71	1-019-50ML	50 ml

Potassium deuterium oxide 30 wt% solution in D_2O min 99.8 atom%D

CAS 24572-01-8 **UN 1814**

DKO	**Catalogue No.**	**Pack**
FW (gr): 57.11	1-018-10ML	10 ml
Density at 25°C (gr/cm^3): 1.4	1-018-25ML	25 ml
	1-018-50ML	50 ml

Sodium deuterium oxide 30 wt% solution in D_2O min 99.8 atom%D

CAS 14014-06-3 **UN 1824**

DNaO	**Catalogue No.**	**Pack**
FW (gr): 41	1-006-10ML	10 ml
Density at 25°C (gr/cm^3): 1.46	1-006-25ML	25 ml

Sodium deuterium oxide 1.0 M solution in D_2O min 99.8 atom%D

CAS 14014-06-3 **UN 1824**

DNaO
FW (gr): 41
Density at 25°C (gr/cm³): 1.16

Catalogue No.	Pack
1-007-10ML	10 ml
1-007-25ML	25 ml

Sodium deuterium oxide 0.1 M solution in D_2O min 99.8 atom%D

CAS 14014-06-3 **UN 1824**

DNaO
FW (gr): 41
Density at 25°C (gr/cm³): 1.11

Catalogue No.	Pack
1-008-10ML	10 ml
1-008-25ML	25 ml

Sulfuric acid-d_2 98 wt% solution in D_2O min 98.5 atom%D

CAS 13813-19-9 **UN 1830**

D_2O_4S
FW (gr): 100.09
Density at 25°C (gr/cm³): 1.87

Catalogue No.	Pack
1-027-5ML	5 ml
1-027-10ML	10 ml
1-027-25ML	25 ml

Thiourea-d_4 ≥ 98 atom%D

CAS 17370-85-3 **UN 3077**

CD_4N_2S
FW (gr): 80.15
mp (°C): 170-176

Catalogue No.	Pack
1-024-5G	5 gr
1-024-10G	10 gr
1-024-25G	25 gr

Toluene-d_8 ≥ 99 atom%D

CAS 2037-26-5 **UN 1294**

$C_6D_5CD_3$
FW (gr): 100.19
mp (°C): -85
bp (°C): 110
Density at 25°C (gr/cm^3): 0.94

Catalogue No.	Pack
1-030-10ML	10 ml
1-030-25ML	25 ml

Trifluoroacetic acid-d ≥ 99.5 atom%D

CAS 599-00-8 **UN 2699**

$C_2DF_3O_2$
FW (gr): 115.03
mp (°C): -15.4
bp (°C): 75
Density at 25°C (gr/cm^3): 1.5

Catalogue No.	Pack
1-020-10ML	10 ml
1-020-25ML	25 ml

1,2,4-Trichlorobenzene-d_3 ≥ 98 atom%D

CAS 2199-72-6 **UN 2321**

$C_6D_3Cl_3$
FW (gr): 184.47
mp (°C): 16
bp (°C): 214
Density at 25°C (gr/cm^3): 1.48

Catalogue No.	Pack
1-017-5ML	5 ml
1-017-10ML	10 ml

Urea-d_4 ≥ 98 atom%D

CAS 1433-11-0

CD_4N_2O
FW (gr): 64.08
mp (°C): 132-135

Catalogue No.	Pack
1-023-5G	5 gr
1-023-10G	10 gr

5 mm NMR Tube Boro 5.1 (ASTM Type 1 Class B glass) - 300 MHz

O.D. (mm): 4.950 ± 0.020
Wall thickness (mm): 0.43
Concentricity (µm): 7
Camber (µm): 25
Length (inch): 7

Catalogue No.	Pack in lots of
Boro 300-7	5

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5 mm NMR Tube Boro 5.1 (ASTM Type 1 Class B glass) - 400 MHz

O.D. (mm): 4.950 ± 0.015
Wall thickness (mm): 0.43
Concentricity (µm): 7
Camber (µm): 13
Length (inch): 7

Catalogue No.	Pack in lots of
Boro 400-7	5

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5 mm NMR Tube Boro 5.1 (ASTM Type 1 Class B glass) - 500 MHz

O.D. (mm): 4.950 ± 0.015
Wall thickness (mm): 0.43
Concentricity (µm): 5
Camber (µm): 13
Length (inch): 7

Catalogue No.	Pack in lots of
Boro 500-7	5

GHS Pictograms

Exploding Bomb
- Explosives
- Self-reactives
- Organic peroxides

Corrosion
- Skin Corrosion/burns
- Eye damage
- Corrosive to metals

Flame Over Circle
- Oxidizing gases
- Oxidizing liquids
- Oxidizing solids

Gas Cylinder
- Gases under pressure

Enviroment
- Aquatic toxicity

Skull and Crossbones
- Acute toxicity (fatal or toxic)

Exclamation Mark
- Irritant (eye and skin)
- Skin sensitizer
- Acute toxicity
- Narcotic effects
- Respiratory tract Irritant
- Hazardous to ozone layer (nonmandatory)

Health Hazard
- Carcinogen
- Mutagenicty
- Reproductive toxicity
- Respiratory sensitizer
- Target organ toxicity
- Aspiration toxicity

Flame
- Flammables
- Pyrphorics
- Self-heating
- Emits flammable gas
- Self-reactives
- Organic peroxides

Chemical Shift

Compounds	^{1}H Chemical Shift (ppm from TMS) (multiplicity)	JHD (Hz)	^{13}C Chemical Shift (ppm from TMS) (multiplicity)	JCD (JCF) (Hz)
Acetic acid-d_4	11.65 (1)	-	178.4 (1)	-
	2.04 (5)	2.2	20 (7)	20
Acetone-d_6	2.05 (5)	2.2	206.2 (1)	0.9
			29.8 (7)	19.4
Acetonitrile-d_3	1.93 (5)	2.5	118.2 (br)	-
			1.3 (7)	21
Chloroform-d	7.26 (1)	-	77.16 (3)	32.0
Deuterium oxide	4.80	-	-	-
Dimethyl sulfoxide-d_6	2.5 (5)	1.9	39.52 (7)	21.0
Methanol-d	3.3 (5)	1.7	49.15 (7)	21.4
	4.89 (1)	-		
Dichloromethane-d_2	5.32 (3)	1.1	53.8 (5)	27.2
1,2,4-trichlorobenzene-d_3	7.2 (3)	-	133 (6)	-
Phosphoric acid-d_3 85% solution in D_2O	0 (1)	-	-	-

Compounds	^{1}H Chemical Shift (ppm from TMS) (multiplicity)	JHD (Hz)	^{13}C Chemical Shift (ppm from TMS) (multiplicity)	JCD (JCF) (Hz)
Trifluoroacetic acid-d	11.5 (1)	-	164.21 (4)	(44)
			116.6 (4)	(283)
Mesitylene-d_{12}	2.26	-	21.17	-
	6.78		126.99	
			137.66	
Toluene-d_8	7.09 (m)	-	137.5 (1)	-
	7.00 (br)	-	128.9 (3)	23
	6.98 (m)	-	128.0 (3)	24
	2.09 (5)	2.3	125.2 (3)	24
			20.4 (7)	19
Nitromethan-d_3	4.4 (5)	1.9	62.5 (7)	23
Isopropanol-d_6	5.12 (1)	-	62.9 (3)	21.5
	3.89 (br)	-	24.2 (7)	19
	1.10 (br)	-		

General **Terms**

Mesbah Energy Co. reserves the right to revise the provisions of General Terms and Conditions at any time.

Our products are intended for laboratory use only and are to be used exclusively by qualified specialist staff.

Disclaimer

Mesbah Energy represents that its products match their applicable specifications and accepts no other responsibility, expressed or implied, except the ones described in the invoice documents. Since our products are only authorized for laboratory use, Mesbah Energy assumes no responsibility for any unauthorized use of its products.

Documentation

A Certificate of Analysis (COA) and a Material Safety Data Sheet (MSDS) will be supplied on your request.

Packaging

Our products are packaged in accordance with the property of their containing products and to ensure satisfactory protection of the products. In order to prevent from oxidation/moisten, products are packaged under blanket gas atmosphere if necessary.

Shipping

Detailed terms of sales including taxes and duties, payment terms, delivery and shipment, bank details and etc. will be provided with Invoice documents.

Price

The net price of products will be provided based on customer inquiry (EUR, IRR). Quantity discount for bulk orders is allowed and open to negotiation.

Quality Control

We employ advanced quality control techniques for both in-process and final product testing phases. Gas Chromatography, Mass Spectroscopy, Infrared Spectroscopy, Nuclear Magnetic Resonance Spectroscopy, Laser Spectroscopy and Carl-Fisher are among these techniques.

Return Shipment

Returns must be made within 30 days from receipt of the delivery with prior approval from Mesbah Energy and the buyer is responsible for approving the quality and quantity of any product within the stated period. Restocking charge may be imposed for approved returns.

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