

DEUTERIUM OXIDE 99.9%

GHS Safety Data Sheet

Version No:2.0

Page 1 of 7

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

DEUTERIUM OXIDE

OTHER NAMES

D₂O, water-D₂, "water, heavy (D₂O)", "dideuterium oxide", "heavy water", "deuterate water"

PRODUCT USE

Reagent.

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,

248, WORLI,

MUMBAI- 400030.INDIA.

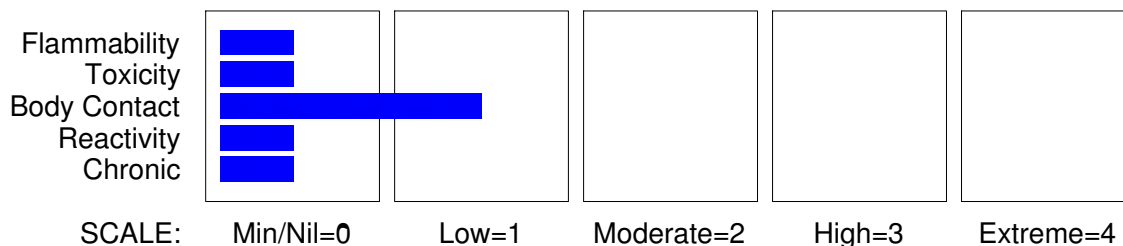
technical@sdfine.com

Telephone: 91- 22- 24959898

Telephone: 91- 22- 24959899

Fax: 91- 22- 24937232

HAZARD RATINGS



Section 2 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HAZARD

Not hazardous

No hazards determined by using GHS criteria

continued...

DEUTERIUM OXIDE 99.9%

GHS Safety Data Sheet

Version No:2.0

Page 2 of 7

Section 2 - HAZARDS IDENTIFICATION

PRECAUTIONARY STATEMENTS

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
deuterium oxide	7789-20-0	>98
may contain water	7732-18-5	

Section 4 - FIRST AID MEASURES

SWALLOWED

Not applicable.

EYE

Not applicable.

SKIN

In case of burns:

- Quickly immerse affected area in cold running water for 10 to 15 minutes.
- Bandage lightly with a sterile dressing. Treat for shock if required.
- Lay patient down. Keep warm and rested.
- Transport to hospital, or doctor.

INHALED

Not applicable.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Not applicable.

FIRE FIGHTING

Not applicable.

FIRE/EXPLOSION HAZARD

Not applicable.

FIRE INCOMPATIBILITY

Not applicable.

continued...

DEUTERIUM OXIDE 99.9%

GHS Safety Data Sheet

Version No:2.0

Page 3 of 7

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

Spills & Disposal:
Absorb with dry agent.
Stop leak if safe to do so.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

deuterium oxide 200000 ppm

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

deuterium oxide 40000 ppm

other than mild, transient adverse effects without perceiving a clearly defined odour is:

deuterium oxide 6000 ppm

The threshold concentration below which most people will experience no appreciable risk of health effects:

deuterium oxide 2000 ppm

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	$\geq 0.1\%$	Toxic (T)	$\geq 3.0\%$
R50	$\geq 0.25\%$	Corrosive (C)	$\geq 5.0\%$
R51	$\geq 2.5\%$		
else	$\geq 10\%$		

where percentage is percentage of ingredient found in the mixture

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+: May be stored together

O: May be stored together with specific precautions

X: Must not be stored together

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

No data for this material.

continued...

DEUTERIUM OXIDE 99.9%

GHS Safety Data Sheet

Version No:2.0

Page 4 of 7

Section 7 - HANDLING AND STORAGE

SUITABLE CONTAINER

- Check that containers are clearly labelled.
- No restriction on the type of containers.

STORAGE INCOMPATIBILITY

Not applicable.

STORAGE REQUIREMENTS

Not applicable.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- deuterium oxide: CAS:7789- 20- 0 CAS:39388- 36- 8 CAS:156428- 50- 1
- water: CAS:7732- 18- 5 CAS:558440- 53- 2 CAS:558440- 22- 5

MATERIAL DATA

Not available. Refer to individual constituents.

INGREDIENT DATA

WATER:

No exposure limits set by NOHSC or ACGIH.

PERSONAL PROTECTION



EYE

None under normal operating conditions.

OTHERWISE: • Safety glasses.

HANDS/FEET

None under normal operating conditions.

OTHERWISE: Wear impervious gloves.

OTHER

Not applicable.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

continued...

DEUTERIUM OXIDE 99.9%

GHS Safety Data Sheet

Version No:2.0

Page 5 of 7

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

For further information consult
your
Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

None under normal operating conditions.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Colourless, odourless, tasteless liquid. Polar liquid. Allotropic forms are ice and steam.

PHYSICAL PROPERTIES

Liquid.
Mixes with water.

Molecular Weight: 20.03
Melting Range (°C): 4
Solubility in water (g/L): Miscible
pH (1% solution): 7
Volatile Component (%vol): 100
Relative Vapour Density (air=1): 0.01
Lower Explosive Limit (%): Not applicable
Autoignition Temp (°C): Not applicable
State: Liquid

Boiling Range (°C): 101
Specific Gravity (water=1): 1.105
pH (as supplied): 7
Vapour Pressure (kPa): 2.7265 @ 25 C
Evaporation Rate: Slow
Flash Point (°C): Non- flammable.
Upper Explosive Limit (%): Not applicable
Decomposition Temp (°C): Not applicable

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Product is considered stable and hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Although ingestion is not thought to produce harmful effects (as classified under EC Directives), the material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

continued...

DEUTERIUM OXIDE 99.9%

GHS Safety Data Sheet

Version No:2.0

Page 6 of 7

Section 11 - TOXICOLOGICAL INFORMATION

EYE

Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

SKIN

The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

INHALED

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

CHRONIC HEALTH EFFECTS

Prolonged skin contact may cause skin reactions and susceptibility to skin infections.

TOXICITY AND IRRITATION

None assigned. Refer to individual constituents.

WATER:

No significant acute toxicological data identified in literature search.

Section 12 - ECOLOGICAL INFORMATION

No data for .

Section 13 - DISPOSAL CONSIDERATIONS

Not applicable.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN, IATA, IMDG

Section 15 - REGULATORY INFORMATION

REGULATIONS

No regulations applicable

No data available for deuterium oxide as CAS: 7789-20-0, CAS: 39388-36-8, CAS: 156428-50

continued...

DEUTERIUM OXIDE 99.9%

GHS Safety Data Sheet

Version No:2.0

Page 7 of 7

Section 15 - REGULATORY INFORMATION

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
deuterium oxide	7789- 20- 0, 39388- 36- 8, 156428- 50- 1
water	7732- 18- 5, 558440- 53- 2, 558440- 22- 5

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

Issue Date: 30-Mar-2018