



90% FORMAMIDE IN DMSO-D6

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 01/08/2014

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Supersedes: 21/11/2019

Version: 2.2

DLM-68

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixtures
Product name : 90% FORMAMIDE IN DMSO-D6
Product code : DLM-68
Other means of identification : Also applicable to:
DLM-68A
DLM-68B
DLM-68C
DLM-68G

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

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Carc. 2 H351
Repr. 1B H360
STOT RE 2 H373

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Repr.Cat.2; R61
Full text of R-phrases: see section 16

GHS-US classification

Flam. Liq. 4 H227
Carc. 2 H351
Repr. 1B H360
STOT RE 2 H373

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)	: 
	GHS08
Signal word (CLP)	: Danger
Hazard statements (CLP)	: H351 - Suspected of causing cancer (in contact with skin, if inhaled, if swallowed) H360 - May damage fertility. May damage the unborn child. (in contact with skin, if inhaled, if swallowed) H373 - May cause damage to organs (eyes, blood) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed)
Precautionary statements (CLP)	: P260 - Do not breathe dust, fume, gas, mist, spray, vapors. P280 - Wear eye protection, face protection, protective clothing, protective gloves. P314 - Get medical advice/attention if you feel unwell. P405 - Store locked up. P501 - Dispose of contents/container to Comply with applicable regulations

GHS-US labeling

Hazard pictograms (GHS-US)	: 
	GHS08
Signal word (GHS-US)	: Danger
Hazard statements (GHS-US)	: H227 - Combustible liquid H351 - Suspected of causing cancer (Dermal, Inhalation, oral) H360 - May damage fertility or the unborn child (Dermal, Inhalation, oral) H373 - May cause damage to organs (blood, eyes) through prolonged or repeated exposure (Dermal, Inhalation, oral)
Precautionary statements (GHS-US)	: P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P210 - Keep away from heat, open flames, hot surfaces, sparks. - No smoking. P260 - Do not breathe fume, dust, gas, mist, spray, vapors. P280 - Wear eye protection, face protection, protective clothing, protective gloves. P308+P313 - If exposed or concerned: Get medical advice/attention. P314 - Get medical advice/attention if you feel unwell. P370+P378 - In case of fire: Use Alcohol resistant foam, Carbon dioxide, Dry chemical, Water spray to extinguish. P403+P235 - Store in a well-ventilated place. Keep cool. P405 - Store locked up. P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
FORMAMIDE UNLABELED substance listed as REACH Candidate (Formamide)	(CAS-No.) 75-12-7 (EC-No.) 200-842-0 (EC Index-No.) 616-052-00-8 (REACH-no) 01-2119496064-35	89.56	Carc.Cat.3; R40 T; R48/25 Repr.Cat.2; R60 Repr.Cat.2; R61
DIMETHYL SULFOXIDE-D6 (D, 99.9%)	(CAS-No.) 2206-27-1 (EC-No.) 218-617-0 (REACH-no) 01-2119431362-50	10.44	Not classified

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
FORMAMIDE UNLABELED substance listed as REACH Candidate (Formamide)	(CAS-No.) 75-12-7 (EC-No.) 200-842-0 (EC Index-No.) 616-052-00-8 (REACH-no) 01-2119496064-35	89.56	Carc. 2, H351 Repr. 1B, H360 STOT RE 2, H373
DIMETHYL SULFOXIDE-D6 (D, 99.9%)	(CAS-No.) 2206-27-1 (EC-No.) 218-617-0 (REACH-no) 01-2119431362-50	10.44	Not classified

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FORMAMIDE UNLABELED	(CAS-No.) 75-12-7	89.56	Carc. 2, H351 Repr. 1A, H360 STOT RE 2, H373
DIMETHYL SULFOXIDE-D6 (D, 99.9%)	(CAS-No.) 2206-27-1	10.44	Flam. Liq. 4, H227

Full text of R- and H- phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible). Evacuate danger area.
First-aid measures after inhalation	: When symptoms occur: go into open air and ventilate suspected area. If not breathing, give artificial respiration. Get medical advice/attention.
First-aid measures after skin contact	: Wash with plenty of soap and water. Get immediate medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: May be harmful in contact with skin. May cause moderate irritation.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2).
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5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions	: Wear self contained breathing apparatus for fire fighting if necessary.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Wear recommended personal protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Avoid breathing vapors, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Prevent entry to sewers and public waters. Do not allow to enter drains or water courses. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Clean up any spills as soon as possible, using an absorbent material to collect it. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal.
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Methods for cleaning up : Contain spillage, then collect with non-combustible absorbent material. Disposal should be in accordance with applicable Federal, State and local regulations.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid all eye and skin contact and do not breathe vapor and mist. Keep away from sources of ignition - No smoking. Take precautionary measures to prevent the formation of static electricity.

Precautions for safe handling : Avoid breathing dust, mist or spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store at room temperature away from light and moisture.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DIMETHYL SULFOXIDE-D6 (D, 99.9%) (2206-27-1)		
Italy - Portugal - USA ACGIH	Remark (ACGIH)	TWA 250 ppm USA. Workplace Environmental Exposure Levels (WEEL)
FORMAMIDE UNLABELED (75-12-7)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	10.00000000 ppm Eye irritation. Liver damage. Kidney damage. Skin irritation. Danger of cutaneous absorption.
Italy - Portugal - USA ACGIH	Remark (ACGIH)	PEL 10 ppm; 18 mg/m ³ - Skin. California permissible exposure limits for chemical contaminants. (Title 8, Article 107)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	15 mg/m ³ Potential for dermal absorption.
USA NIOSH	NIOSH REL (TWA) (ppm)	10 ppm Potential for dermal absorption.

8.2. Exposure controls

Personal protective equipment : Gloves. Safety glasses. Respiratory protection of the dependent type. Protective clothing.



Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear eye protection. Chemical goggles or face shield with safety glasses.

Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection.

Respiratory protection : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

The properties listed below are for the solvent, the main component of this mixture.

Physical state : Liquid

Molecular mass : 45.04 g/mol

Color : Colourless

Odor : No data available

Odor threshold : No data available

pH : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : 2 - 3 °C (36 - 37 °F) - lit.

Freezing point : No data available

Boiling point : 210 °C (410 °F) - lit.

Flash point : 175 °C (347 °F)

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Auto-ignition temperature	: No data available
Decomposition temperature	: > 180 °C (> 356 °F)
Flammability (solid, gas)	: No data available
Vapor pressure	: 0.08 hPa (0.06 mmHg) at 20 °C (68 °F)
Relative vapor density at 20 °C	: 1.56 (Air = 1.0)
Relative density	: No data available
Specific gravity / density	: 1.134 g/ml at 25 °C (77 °F)
Solubility	: Water: Completely miscible
Log Pow	: -0.82 at 25 °C (77 °F)
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: 19 - 2.7 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable if stored under recommended conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Moisture. Heat. Open flame. Sparks.

10.5. Incompatible materials

Acid chlorides. Phosphorus halides. Strong acids. Strong oxidizing agents. Strong reducing agents.

10.6. Hazardous decomposition products

Calcium oxide. Sulphur oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

DIMETHYL SULFOXIDE-D6 (D, 99.9%) (2206-27-1)

LD50 oral rat	14500 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (ppm)	40250 ppm 4h
ATE CLP (oral)	14500.000 mg/kg body weight

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LD50 oral rat	5325 mg/kg male and female (OECD Test Guideline 401)
LD50 dermal rabbit	17000 mg/kg
LC50 inhalation rat (mg/l)	> 21 mg/l/4h (OECD Test Guideline 403)
Repeated dose toxicity - Rat - Female - Oral - NOAEL	40 mg/kg
Repeated dose toxicity - Rat - male and female - Dermal - NOAEL	100 mg/kg

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer (in contact with skin, if inhaled, if swallowed).
Reproductive toxicity	: May damage fertility. May damage the unborn child. (in contact with skin, if inhaled, if swallowed).
Specific target organ toxicity – single exposure	: Not classified

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Specific target organ toxicity – repeated exposure	: May cause damage to organs (eyes, blood) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed).
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: May be harmful in contact with skin. May cause moderate irritation.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

DIMETHYL SULFOXIDE-D6 (D, 99.9%) (2206-27-1)

LC50 fish 1	34000 mg/l Pimephales promelas (fathead minnow) - 96 h
EC50 Daphnia 1	24600 mg/l Daphnia magna (Water flea) - 48 h
LC50 fish 2	35000 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
LC50 other aquatic organisms 2	17000 mg/l Pseudokirchneriella subcapitata (green algae) - 72 h
ErC50 (algae)	400000 mg/l Lepomis macrochirus (Bluegill) -96 h

FORMAMIDE UNLABELED (75-12-7)

LC50 fish 1	6569 mg/l static test LC50 - Leuciscus idus (Golden orfe) - 96 h
EC50 Daphnia 1	> 500 mg/l static test EC50 - Daphnia magna (Water flea) - 48 h
EC50 other aquatic organisms 1	> 500 mg/l static test EC50 - Desmodesmus subspicatus (green algae) - 72 h
LC50 other aquatic organisms 2	> 1000 mg/l Respiration inhibition - Sludge Treatment - 30 min (OECD Test Guideline 209)
ErC50 (algae)	> 500 mg/l

12.2. Persistence and degradability

DIMETHYL SULFOXIDE-D6 (D, 99.9%) (2206-27-1)

Persistence and degradability	Not available.
Biodegradation	31 % According to the results of tests of biodegradability this product is not readily biodegradable.

FORMAMIDE UNLABELED (75-12-7)

Persistence and degradability	Aerobic - exposure time: 28 d.
Biodegradation	99 % Readily biodegradable (OECD Test Guideline 301A)

12.3. Bioaccumulative potential

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Log Pow	-0.82 at 25 °C (77 °F)
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DIMETHYL SULFOXIDE-D6 (D, 99.9%) (2206-27-1)

Log Pow	-2.03
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FORMAMIDE UNLABELED (75-12-7)

Log Pow	-0.82 at 25 °C (77 °F)
Bioaccumulative potential	No data available.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

FORMAMIDE UNLABELED (75-12-7)

This substance/mixture does not meet the PBT criteria of REACH, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: Dispose of as unused product.

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SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Additional information

Other information : No supplementary information available.

Special transport precautions : Not dangerous goods.

Overland transport

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

Special transport precautions : Not dangerous goods.

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

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SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

DIMETHYL SULFOXIDE-D6 (D, 99.9%) (2206-27-1)

SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

FORMAMIDE UNLABELED (75-12-7)

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
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15.2. International regulations

CANADA

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Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

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U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - New Jersey - Right to Know Hazardous Substance List

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90% FORMAMIDE IN DMSO-D6()				
		U.S. - Pennsylvania - RTK (Right to Know) List		
DIMETHYL SULFOXIDE-D6 (D, 99.9%) (2206-27-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
FORMAMIDE UNLABELED (75-12-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
DIMETHYL SULFOXIDE-D6 (D, 99.9%) (2206-27-1)				
State or local regulations				
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List				
FORMAMIDE UNLABELED (75-12-7)				
State or local regulations				
U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				

SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

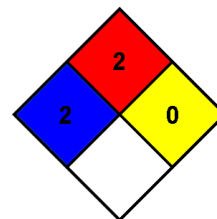
Full text of R-, H- and EUH-phrases:

Carc. 2	Carcinogenicity Category 2
Repr. 1B	Reproductive toxicity Category 1B
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
R40	Limited evidence of a carcinogenic effect
R48/25	Toxic: danger of serious damage to health by prolonged exposure if swallowed
R60	May impair fertility
R61	May cause harm to the unborn child
T	Toxic

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 2 Moderate Hazard

Physical : 0 Minimal Hazard

CIL Mixture SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product