

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/02/2018

Reviewed on 01/02/2018

1 Identification

- **Product identifier**
- **Trade name:** Thymol Blue 1% w/v
in Dimethylformamide
- **Article number:** SPE474
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Aqua Solutions, Inc.
6913 Highway 225
DEER PARK, TX 77536
USA
800-256-2586
- **Information department:**
Technical Coordinator
Sherman Nelson sherman@aquasolutions.org
- **Emergency telephone number:**
Chemtrec: 800-424-9300
Canutec: 613-996-6666



2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.



GHS08 Health hazard

Repr. 1 H360 May damage fertility or the unborn child.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
N,N-Dimethylformamide
- **Hazard statements**
Flammable liquid and vapor.
Causes serious eye irritation.

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May damage fertility or the unborn child.

· Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO2, powder or water spray.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system:

· NFPA ratings (scale 0 - 4)



Health = 2

Fire = 2

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 3

Fire = 2

Reactivity = 0

· Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

· Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 68-12-2	N,N-Dimethylformamide	98.948%
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· Table of Nonhazardous Ingredients

CAS: 76-61-9	Thymol Blue	1.052%
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4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

CAS: 68-12-2	N,N-Dimethylformamide	2 ppm
CAS: 76-61-9	Thymol Blue	30 mg/m ³

- **PAC-2:**

CAS: 68-12-2	N,N-Dimethylformamide	91 ppm
CAS: 76-61-9	Thymol Blue	330 mg/m ³

- **PAC-3:**

CAS: 68-12-2	N,N-Dimethylformamide	530 ppm
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**Trade name: Thymol Blue 1% w/v
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CAS: 76-61-9 Thymol Blue

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2,000 mg/m³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

CAS: 68-12-2 N,N-Dimethylformamide

PEL	Long-term value: 30 mg/m ³ , 10 ppm Skin
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REL	Long-term value: 30 mg/m ³ , 10 ppm Skin
-----	--------------------------------------------------------

TLV	Long-term value: (30) NIC-15 mg/m ³ , (10) NIC-5 ppm NIC-A3; Skin; BEI
-----	--------------------------------------------------------------------------------------

- **Ingredients with biological limit values:**

CAS: 68-12-2 N,N-Dimethylformamide

BEI	15 mg/L LD50 Intraperitoneal: urine Time: end of shift LD50: N-Methylformamide
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	40 mg/L LD50 Intraperitoneal: urine Time: prior to last shift of workweek LD50: N-Acetyl-S-(N-methylcarbamoyl) cysteine (semi-quantitative)
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.

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Avoid contact with the eyes and skin.

· **Breathing equipment:** Not required.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Color: Red

· **Odor:** Organic

· **Odor threshold:** Not determined.

· **pH-value at 20 °C (68 °F):** 7

· **Change in condition**

Melting point/Melting range: -61 °C (-77.8 °F)

Boiling point/Boiling range: 152 °C (305.6 °F)

· **Flash point:** 58 °C (136.4 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 440 °C (824 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Not determined.

· **Explosion limits:**

Lower: 2.2 Vol %

Upper: 16 Vol %

· **Vapor pressure at 20 °C (68 °F):** 3.5 hPa (2.6 mm Hg)

· **Density at 20 °C (68 °F):** 0.9503 g/cm³ (7.93025 lbs/gal)

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- | | |
|---------------------------|-----------------|
| · Relative density | Not determined. |
| · Vapor density | Not determined. |
| · Evaporation rate | Not determined. |

- | | |
|--------------------------------------------------|-----------------|
| · Solubility in / Miscibility with Water: | Fully miscible. |
|--------------------------------------------------|-----------------|

- | | |
|---------------------------------------------------|-----------------|
| · Partition coefficient (n-octanol/water): | Not determined. |
|---------------------------------------------------|-----------------|

- | | |
|---------------------|-----------------|
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |

- | | |
|---------------------------|--------------------------------|
| · Solvent content: | |
| VOC content: | 0.00 %
0.0 g/l / 0.00 lb/gl |

- | | |
|----------------------------|--------------------------------------------|
| Solids content: | 0.0 % |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- | | |
|---------------------------------------------------------------|--|
| · LD/LC50 values that are relevant for classification: | |
|---------------------------------------------------------------|--|

ATE (Acute Toxicity Estimate)

Oral	LD50	2,830 mg/kg (rat)
Dermal	LD50	4,770 mg/kg (rabbit)

CAS: 68-12-2 N,N-Dimethylformamide

Dermal	LD50	1,100 mg/kg (ATE)
Inhalative	LC50/4 h	11 mg/l (ATE)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

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· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

CAS: 68-12-2 N,N-Dimethylformamide	3
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· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability:** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential:** No further relevant information available.

· **Mobility in soil:** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects:** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**

· **DOT, IMDG, IATA**

UN1993

· **UN proper shipping name**

· **DOT**

· **IMDG, IATA**

Flammable liquids, n.o.s. (N,N-Dimethylformamide)

FLAMMABLE LIQUID, N.O.S. (N,N-DIMETHYLFORMAMIDE)

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· **Transport hazard class(es)**

· **DOT**



· **Class** 3 Flammable liquids
 · **Label** 3

· **IMDG, IATA**



· **Class** 3 Flammable liquids
 · **Label** 3

· **Packing group**

· **DOT, IMDG, IATA** III

· **Environmental hazards:**

· **Marine pollutant:** No

· **Special precautions for user**

Warning: Flammable liquids

· **Danger code (Kemler):**

30

· **EMS Number:**

F-E,S-E

· **Stowage Category**

A

· **Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **DOT**

· **Quantity limitations**

On passenger aircraft/rail: 60 L

On cargo aircraft only: 220 L

· **IMDG**

· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":**

UN 1993 FLAMMABLE LIQUIDS, N.O.S. (N,N-DIMETHYLFORMAMIDE), 3, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

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· **Section 313 (Specific toxic chemical listings):**

CAS: 68-12-2 | *N,N*-Dimethylformamide

· **TSCA (Toxic Substances Control Act):**

N,N-Dimethylformamide

Thymol Blue

· **TSCA new (21st Century Act) (Substances not listed)**

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

CAS: 68-12-2 | *N,N*-Dimethylformamide

A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

N,N-Dimethylformamide

· **Hazard statements**

Flammable liquid and vapor.

Causes serious eye irritation.

May damage fertility or the unborn child.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

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Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO₂, powder or water spray.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Environment protection department.

· **Contact:**

· **Date of preparation / last revision**

01-02-2018: review SDS for accuracy. STN

Creation date for SDS 02-05-2015. STN

01/02/2018 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flam. Liq. 3: Flammable liquids – Category 3

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Repr. 1: Reproductive toxicity – Category 1