

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dynasolve® 100

Version  
1.1

Revision Date:  
10/18/2024

SDS Number:  
70MDGM661370

Date of first issue:  
10/18/2024

## SECTION 1. IDENTIFICATION

Product name : Dynasolve® 100

Product number : 661370

### Manufacturer or supplier's details

Company : Versum Materials US, LLC 8555 South River Parkway Tempe,  
AZ 85284-2601 Exporter EIN No. 47-5632014  
www.emdgroup.com/electronics Telephone: 800 837 2724

Emergency telephone : 1-800-424-9300 CHEMTREC (USA) 1-703-741-5970  
CHEMTREC (International) 24 Hours/day; 7 Days/week

### Recommended use of the chemical and restrictions on use

Recommended use : Polymer Remover

## SECTION 2. HAZARDS IDENTIFICATION

### GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids : Category 3

Acute toxicity (Inhalation) : Category 4

Eye irritation : Category 2A

Reproductive toxicity : Category 1B

### GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H226 Flammable liquid and vapor.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H360 May damage fertility or the unborn child.

Precautionary Statements :

#### Prevention:

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat/ sparks/ open flames/ hot surfaces.  
No smoking.

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P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing mist or vapors.  
P264 Wash skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

#### Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

#### Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

#### Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

#### Other hazards

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
DIMETHYLFORMAMIDE	68-12-2	>= 90 - <= 100

Actual concentration is withheld as a trade secret

## SECTION 4. FIRST AID MEASURES

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---

If inhaled	:	fresh air. Call in physician.
In case of skin contact	:	Wash off immediately with plenty of water for at least 15 minutes. Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek medical treatment immediately. Remove contact lenses.
If swallowed	:	immediately make victim drink water (two glasses at most). Consult a physician. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	irritant effects
Notes to physician	:	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

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## SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water Dry powder Foam Carbon dioxide (CO <sub>2</sub> )
Unsuitable extinguishing media	:	For this substance/mixture no limitations of extinguishing agents are given.
Specific hazards during fire fighting	:	Combustible.

Vapors are heavier than air and may spread along floors.  
Forms explosive mixtures with air at elevated temperatures.  
Development of hazardous combustion gases or vapours possible in the event of fire.

Fire may cause evolution of:  
Carbon dioxide (CO<sub>2</sub>)  
Nitrogen oxides (NO<sub>x</sub>)  
Ammonia

Further information	:	Prevent fire extinguishing water from contaminating surface water or the ground water system. Suppress (knock down) gases/vapors/mists with a water spray
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jet.  
Cool closed containers exposed to fire with water spray.

Special protective equipment for fire-fighters : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Advice for non-emergency personnel:  
Do not breathe vapors, aerosols.  
Avoid substance contact.  
Ensure adequate ventilation.  
Keep away from heat and sources of ignition.  
Evacuate the danger area, observe emergency procedures, consult an expert.  
Advice for emergency responders:  
Protective equipment see section 8.  
If possible, stop flow of product.

Environmental precautions : Do not flush into surface water or sanitary sewer system.  
Prevent further leakage or spillage if safe to do so.  
Risk of explosion.

Methods and materials for containment and cleaning up : Observe possible material restrictions (see sections 7 and 10).  
Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

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## SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms. Emergency showers and eye wash stations should be readily accessible. Empty containers may contain residue which can be dangerous – do not pressurize, cut, weld, drill, grind and also do not expose such containers to heat, flame, sparks, or other ignition sources. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Observe label precautions.

Conditions for safe storage : Store in original container.

Further information on storage conditions : Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons. Risks from decomposition products: see section 10

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

# SAFETY DATA SHEET

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Dynasolve® 100

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Revision Date:  
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Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
DIMETHYLFORMAMIDE	68-12-2	TWA	5 ppm	ACGIH
		TWA	10 ppm 30 mg/m <sup>3</sup>	NIOSH REL
		TWA	10 ppm 30 mg/m <sup>3</sup>	OSHA Z-1
		TWA	10 ppm 30 mg/m <sup>3</sup>	OSHA P0

### Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
DIMETHYLFORMAMIDE	68-12-2	Total N-Methylformamide	Urine	End of shift (As soon as possible after exposure ceases)	30 mg/l	ACGIH BEI
		N-Acetyl-S-(N-methylcarbamoyl) cysteine	Urine	End of shift at end of work-week	30 mg/l	ACGIH BEI

**Engineering measures** : Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7

### Personal protective equipment

**Respiratory protection** : Respirator with filter for organic vapor  
Wear appropriate respirator when ventilation is inadequate.  
required when vapours/aerosols are generated.

**Hand protection**

**Remarks** : Solvent-resistant gloves Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Protective measures** : Wear suitable protective clothing, gloves and eye/face protection.

**Eye protection** : Safety glasses

**Body Protection** : Flame retardant protective clothing  
If there is any possibility of direct contact or exposure, wear chemical resistant protective clothing.

**Hygiene measures** : Avoid contact with skin, eyes and clothing.  
Immediately change contaminated clothing. Apply preventive

# SAFETY DATA SHEET

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Revision Date:  
10/18/2024

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skin protection. Wash hands and face after working with substance.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Color	: pink
Odor	: No data available
Odor Threshold	: No data available
pH	: 8
Melting point	: No data available
Boiling point/boiling range	: 307 °F / 153 °C
Flammability (solid, gas)	: No data available
Decomposition temperature	: No data available
Flash point	: 57.5 °C
Autoignition temperature	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapor pressure	: 5.16 hPa
Relative vapor density	: No data available
Relative density	: (water = 1) 0.945
Density	: 0.945 g/cm <sup>3</sup>
Solubility(ies) Water solubility	: completely soluble
Partition coefficient: n-octanol/water	: No data available
Evaporation rate	: No data available
Viscosity	: No data available

# SAFETY DATA SHEET

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10/18/2024

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---

## SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Vapor/air-mixtures are explosive at intense warming.
Chemical stability	:	The product is chemically stable under standard ambient conditions (room temperature) .
Possibility of hazardous reactions	:	no information available
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Aluminum triethyl (an explosive mixture is formed when heated with this product). Halogenated compounds Isocyanates.
Hazardous decomposition products	:	in the event of fire: See section 5. Magnesium nitrate and product undergo spontaneous decomposition.

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## SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

Inhalation  
Eye contact  
Skin contact

### Acute toxicity

#### Product:

Acute inhalation toxicity : Acute Toxicity Estimate (ATE): 11 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor  
Method: Calculation method  
  
Symptoms: Possible symptoms:, mucosal irritations

#### Components:

##### **DIMETHYLFORMAMIDE:**

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.85 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor  
Method: OECD Test Guideline 403  
GLP: no  
Assessment: The component/mixture is moderately toxic after short term inhalation.  
Remarks: (OECD SIDS)

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



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10/18/2024

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---

## Skin corrosion/irritation

**Product:**

No data available

**Components:**

**DIMETHYLFORMAMIDE:**

Species : Rabbit  
Exposure time : 20 h  
Assessment : dummy phrase  
Method : Patch Test 24 Hrs.  
Result : No skin irritation  
Remarks : (OECD SIDS)

## Serious eye damage/eye irritation

**Product:**

No data available

**Components:**

**DIMETHYLFORMAMIDE:**

Species : Rabbit  
Result : Severe eye irritation  
Assessment : Irritating to eyes.  
Method : Draize Test  
GLP : yes  
Remarks : (OECD SIDS)

## Respiratory or skin sensitization

**Product:**

No data available

## Germ cell mutagenicity

**Product:**

No data available

## Carcinogenicity

**Product:**

No data available

**IARC** Group 2A: Probably carcinogenic to humans  
DIMETHYLFORMAMIDE 68-12-2

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.



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## Reproductive toxicity

**Product:**

No data available

**Components:**

**DIMETHYLFORMAMIDE:**

Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments

## STOT-single exposure

**Product:**

No data available

## STOT-repeated exposure

**Product:**

No data available

## Aspiration toxicity

**Product:**

No data available

## Further information

**Product:**

Remarks : Other dangerous properties can not be excluded. This substance should be handled with particular care. The product has not been tested. The information is derived from the properties of the individual components.

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Components:**

**DIMETHYLFORMAMIDE:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 9,000 - 15,000 mg/l  
Exposure time: 96 h  
Remarks: Supplier MSDS

LC50 (Lepomis macrochirus (Bluegill sunfish)): 6,700 - 7,500 mg/l  
Exposure time: 96 h  
Remarks: Supplier MSDS

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10/18/2024

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---

## Persistence and degradability

### Components:

#### **DIMETHYLFORMAMIDE:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: > 90 %  
Remarks: Supplier MSDS

## Bioaccumulative potential

### Components:

#### **DIMETHYLFORMAMIDE:**

Partition coefficient: n-octanol/water : log Pow: -1.01

### **Mobility in soil**

No data available

### **Other adverse effects**

### Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No ecological testing was carried out on the preparation.

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## SECTION 13. DISPOSAL CONSIDERATIONS

### **Disposal methods**

Waste from residues : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Contaminated packaging : When discarding an empty container, the contaminated to the inside is removed completely and it discards according to your local regulations.

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---

## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### IATA-DGR

UN/ID No. : UN 2265  
Proper shipping name : N,N-Dimethylformamide solution  
(DIMETHYLFORMAMIDE)  
Class : 3  
Packing group : III  
Labels : Flammable Liquids  
Packing instruction (cargo aircraft) : 366  
Packing instruction (passenger aircraft) : 355

#### IMDG-Code

UN number : UN 2265  
Proper shipping name : N,N-DIMETHYLFORMAMIDE SOLUTION  
(DIMETHYLFORMAMIDE)  
Class : 3  
Packing group : III  
Labels : 3  
EmS Code : F-E, S-D  
Marine pollutant : no

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

Not applicable for product as supplied.

#### Domestic regulation

##### 49 CFR Road

UN/ID/NA number : UN 2265  
Proper shipping name : N,N-Dimethylformamide solution  
(DIMETHYLFORMAMIDE)  
Class : 3  
Packing group : III  
Labels : FLAMMABLE LIQUID  
ERG Code : 129  
Marine pollutant : no

#### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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## SECTION 15. REGULATORY INFORMATION

### CERCLA Reportable Quantity

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Version  
1.1

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Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
DIMETHYLFORMAMIDE	68-12-2	100	100

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

DIMETHYLFOR 68-12-2 >= 90 - <= 100 %  
MAMIDE

### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

DIMETHYLFORMAMIDE 68-12-2 >= 90 - <= 100 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

DIMETHYLFORMAMIDE 68-12-2 >= 90 - <= 100 %

### Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

### US State Regulations

#### Massachusetts Right To Know

DIMETHYLFORMAMIDE 68-12-2

#### TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

### The ingredients of this product are reported in the following inventories:

TSCA : All substance listed on the TSCA Active Inventory

DSL : All components of this product are on the Canadian DSL

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according to the OSHA Hazard Communication Standard



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---

## SECTION 16. OTHER INFORMATION

Revision Date : 10/18/2024

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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