

Material Safety Data Sheet

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1. Identification of the substance/mixture and of the company/undertaking

Product name: DIMETHYL SULFOXIDE, 92% IN WATER

Product code: 10093156

Supplier: Carestream Health, Inc., 150 Verona Street, Rochester, New York 14608; Carestream Health Canada Company, 6 Monogram Place, Suite 200, Toronto, Ontario, M9R 0A1

MSDS Prepared by: Health, Safety and Environment, Carestream Health, Inc., Rochester, New York, 14608.

For Emergency Health Information call: 1-800-424-9300.

For Other Information, call the Marketing and Distribution Center in Your Area.

Synonyms: None.

Product Use: photographic processing chemical, For industrial use only.

2. Hazards identification

CONTAINS: Dimethyl sulfoxide (67-68-5)

CAUTION!

CAUSES SKIN AND EYE IRRITATION

RAPIDLY ABSORBED THROUGH SKIN

CAN CAUSE CNS EFFECTS

MAY CAUSE INCREASED DERMAL ABSORPTION OF OTHER MORE TOXIC MATERIALS

MAY BE HARMFUL IF INHALED, ABSORBED THROUGH SKIN, OR SWALLOWED

CAN DECOMPOSE AT ELEVATED TEMPERATURES

THE PHYSICAL-CHEMICAL PROPERTIES OF THIS MATERIAL HAVE NOT BEEN FULLY INVESTIGATED

HMIS III Hazard Ratings: Health - 1, Flammability - 1, Physical Hazard - 1

NFPA Hazard Ratings: Health - 2, Flammability - 1, Instability - 1

NOTE: HMIS III and NFPA hazard indexes involve data review and interpretation that may vary among companies. They are intended only for rapid, general identification of the magnitude of the potential hazards. An asterisk (*), in the HMIS III health field, designates potential chronic or target organ hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

3. Composition/information on ingredients

Weight percent	Components (CAS-No.)
90 - 95	Dimethyl sulfoxide (67-68-5)

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4. First aid measures

Inhalation: If symptomatic, move to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before re-use. Destroy or thoroughly clean contaminated shoes.

Ingestion: If swallowed, only induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician or poison control centre immediately.

5. Fire-fighting measures

Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products. Use water spray to cool unopened containers.

Hazardous Combustion Products: Carbon oxides, Sulphur oxides, (see also Hazardous Decomposition Products section).

Unusual Fire and Explosion Hazards: Fire or high temperatures may cause decomposition.

6. Accidental release measures

Methods for cleaning up: Absorb spill with inert material, then place in a chemical waste container. Clean surface thoroughly to remove residual contamination.

7. Handling and storage

Personal precautions: Avoid prolonged or repeated breathing of mist or vapour. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion: Keep away from heat and sources of ignition. Exercise caution if heating, especially in a closed container. Keep from contact with oxidizing materials.

Storage: Keep container tightly closed. Keep away from incompatible substances (see Incompatibility section.)

8. Exposure controls/personal protection

Occupational exposure controls

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Chemical Name	Regulatory List	Value Type	Value
Dimethyl sulfoxide	WEEL	time weighted average	250 ppm

Ventilation: Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Controls should be sufficient so that applicable occupational exposure limits are not exceeded.

Respiratory protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Respirator type: organic vapour/P95. If respirators are used, a program should be instituted to assure compliance with applicable federal, state, commonwealth, provincial, or local laws and regulations.

Eye protection: Wear safety glasses with side shields (or goggles).

Skin and body protection: Wear impervious gloves and protective clothing appropriate for the risk of exposure.

Recommended Decontamination Facilities: Safety shower, eye wash, washing facilities as appropriate to condition of use.

9. Physical and Chemical Properties

Physical form: liquid

Colour: colourless

Odour: odourless

Specific gravity: 1.1

Vapour pressure: not available

Vapour density: not available

Volatile fraction by weight: not available

Boiling point/boiling range: no data available

Melting point/range: > -1.0 °C (> 30.2 °F)

Water solubility: completely soluble

pH: 8.5

Flash point: > 99.0 °C (> 210.2 °F) (closed cup)

Autoignition temperature: 214.0 °C (417.2 °F)

10. Stability and reactivity

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Stability: Not fully evaluated. Materials containing similar structural groups can decompose if heated.

Incompatibility: Strong oxidizing agents, Strong bases, Acid anhydrides, Strong acids, strong reducing agents.

Hazardous decomposition products: None under normal conditions of use.

Hazardous Polymerization: Hazardous polymerisation does not occur.

11. Toxicological information

Effects of Exposure

General advice:

Contains: Dimethyl sulfoxide. Can cause CNS effects. Systemic absorption may cause a garlic-like odor in the mouth and on the skin.

Inhalation: Expected to be a low hazard for recommended handling.

Eyes: Causes eye irritation.

Skin: May be harmful if absorbed through skin. Rapidly absorbed through skin. May cause increased dermal absorption of other more toxic materials. Causes skin irritation.

Ingestion: May be harmful if swallowed. May cause irritation of the gastrointestinal tract.

Acute Toxicity Data:

- Skin irritation: negative
- Skin Sensitization (guinea pig): negative
- Eye irritation: slight irritation

12. Ecological information

The following properties are ESTIMATED from the components of the preparations.

Potential Toxicity:

Toxicity to fish (LC50): > 100 mg/l

Toxicity to daphnia (EC50): > 100 mg/l

Toxicity to other organisms (EC50): > 100 mg/l

Persistence and degradability: Not readily biodegradable.

13. Disposal considerations

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Discharge, treatment, or disposal may be subject to national, state, or local laws. Residual vapours may explode on ignition; do not cut, drill, grind, or weld on or near this container. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

Not regulated for all modes of transportation.

For more transportation information, go to: <http://ship.carestreamhealth.com>.

15. Regulatory information

Notification status

Regulatory List	Notification status
EINECS	y (positive listing)
TSCA	y (positive listing)
AICS	y (positive listing)
DSL	y (positive listing)
ENCS (JP)	y (positive listing)
KECI (KR)	y (positive listing)
PICCS (PH)	y (positive listing)
INV (CN)	y (positive listing)

A N (Negative listing) indicates one or more component is either not on the public Inventory or is subject to exemption requirements. If additional information is needed contact Carestream Health.

WHMIS (Canada): Noncontrolled

Other regulations

American Conference of Governmental Industrial Hygienists (ACGIH):	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
International Agency for Research on Cancer (IARC):	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
U.S. National Toxicology Program (NTP):	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
U.S. Occupational Safety and Health Administration (OSHA):	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

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California Prop. 65:	This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.
US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323):	Dimethyl sulfoxide, Water
US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000):	No components are subject to the Massachusetts Right to Know Act.
US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5):	Dimethyl sulfoxide, Water
US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:	SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

16. Other information

The data below reflects current legislative requirements whereas the product in your possession may carry a different version of the label depending on the date of manufacture.

US/Canadian Label Statements:

CONTAINS: Dimethyl sulfoxide (67-68-5)

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MATERIALS

MAY BE HARMFUL IF INHALED, ABSORBED THROUGH SKIN, OR SWALLOWED

CAN DECOMPOSE AT ELEVATED TEMPERATURES

THE PHYSICAL-CHEMICAL PROPERTIES OF THIS MATERIAL HAVE NOT BEEN FULLY INVESTIGATED

Keep container tightly closed.

Avoid prolonged or repeated breathing of mist or vapour.

Avoid contact with eyes, skin, and clothing.

Use only with adequate ventilation.

Wash thoroughly after handling.

FIRST AID: If symptomatic, move to fresh air. Treat symptomatically. Get medical attention if symptoms occur. In case of contact, immediately flush eyes with plenty of water for at least

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15 minutes. Get medical attention. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before re-use. Destroy or thoroughly clean contaminated shoes. If swallowed, only induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician or poison control centre immediately.

Keep out of reach of children.

Do not handle or use until safety precautions in Material Safety Data Sheet (MSDS) have been read and understood.

Since emptied containers retain product residue, follow label warnings even after container is emptied.

IN CASE OF FIRE: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

IN CASE OF SPILL: Absorb spill with inert material, then place in a chemical waste container. Clean surface thoroughly to remove residual contamination.

The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment. The information relating to the working solution is for guidance purposes only, and is based on correct mixing and use of the product according to instructions.
