

## D/2 Biological Solution

D/2 is a safer, easy to use liquid used to restore brick, stone, concrete, wood, vinyl & aluminum siding, fiberglass, metal, paint and canvas.

A contact time of only 5 to 10 minutes will loosen most fungal and algal deposits with manual scrubbing. Fungi, algae, lichens, mold and mosses contribute significantly to the degradation and disfiguring of many types of construction materials.

Tested and used by the Department of Veterans Affairs and the National Park Service, D/2 is a biodegradable cleaner that is ph neutral and contains no salts, bleach or acids. It is highly effective for removing stains caused by mold, mildew, algae, lichens and air pollutants.



[Order D/2](#)

### D/2 Comes in Three Different Quantities:



1 Gallon



5 Gallon



55 Gallon

Sprayed with D/2 Biological Solution Fall 2010.  
Photographed Spring 2011.



No scrubbing or washing. Biodegradable, no bleach, no acid, no salts. Will not harm plants, stone or you.

**Some of the historic applications of D/2:**

- The White House
- Smithsonian Museums
- Gettysburg Monuments
- National Cemetery
- Frank Lloyd Wright Foundation
- Tomb of the Unknown Soldier
- US Capital
- Lincoln Memorial
- US Naval Academy
- Antietam National Cemetery
- Vicksburg National Cemetery
- Mount Vernon
- The Acropolis
- Congressional Cemetery
- West Point Cemetery

**D/2 was recently used as the cleaner for the Chicago Museum of Science**



Product Name: D/2 Biological Solution

*Manufactured By:*

**D/2 Biological Solution**

PO Box 3746

Westport, MA 02790

Emergency Phone: Chem-Tel 24-Hour Emergency Service: 800-255-3924

Use of Product D/2 Biological Solution is an easy-to-use liquid that aids in the removal of a broad spectrum of soils. It is designed for use on outdoor sculpture, monuments, decorative fountains, stone, brick, terra cotta, concrete, stucco, and other architectural surfaces.

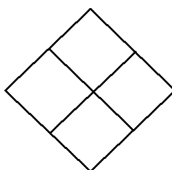
**D/2 Biological Solution is a colorless liquid with a very faint detergent-like odor. It is non-flammable, non-combustible, non-explosive, and non-reactive.**

**Hazard Rating (NFPA/HMIS)**

Health = 1\*      Reactivity = 0

Fire = 0          Special = 0

\* Mild eye irritant, non-mutagenic and non-carcinogenic



**Rating Scale**

0 = Minimal      1 = Slight      2 = Moderate  
3 = Serious      4 = Severe

**Eye Contact:** Eye Irritant.

**Skin Contact:** Prolonged skin contact with D/2 Biological Solution may irritate the skin. Repeated daily application to the skin without rinsing, or continuous contact of D/2 Biological Solution on the skin may lead to irritation.

**Ingestion:** Essentially non-toxic. May cause stomach or intestinal upset if swallowed.

**Inhalation:** No adverse effects expected under typical use conditions. Adequate ventilation should be present when using D/2 Biological Solution over a prolonged period of time. Open windows or ventilate via fan or other air-moving equipment if necessary. Mucous membranes may become irritated by concentrate mist.

**Carcinogens:** No ingredients are listed by OSHA, IARC, or NTP as known or suspected carcinogens.

**Medical**

**Conditions:** No medical conditions are known to be aggravated by exposure to D/2 Biological Solution.

<u>Ingredients</u>	<u>CAS Number</u>	<u>OSHA PEL ACGIH TLV</u>
Surfactants	Proprietary	None established
Wetting Agents	Proprietary	None established
Buffers	Proprietary	None established

**If in Eyes:** Immediately rinse the eye with large quantities of cool water; if present, contact lenses should be removed after 5 minutes of rinsing; continue rinsing 10-15 minutes more. Both upper and lower lids should be lifted to facilitate thorough rinsing.

**If on Skin:** Minimal effects, if any, from diluted product; rinse skin with water, rinse shoes and launder clothing before reuse. - Reversible reddening may occur in some dermal-sensitive users; thoroughly rinse area.

If Inhaled: Use in well-ventilated area, or use adequate protection from inhaling mist during spray applications. Prolonged exposure of workers to concentrate-mist during spray application may cause mild irritation of nasal passages or throat. If this happens, relocate workers to fresh air.

If Ingested: Give several glasses of milk or water to dilute; do not induce vomiting. If stomach upset occurs, consult physician.

Extinguishing Media: Not flammable/non-explosive. No special procedures required.

Special Fire Fighting Procedures: None required.

**Personal Precautions:** Avoid contact with eyes. Do not rub eyes with hands during cleanup. No special precautions for dermal contact are needed. Wash hands thoroughly after cleaning up spill or leak.

**Procedure to follow in case of spill or leak:** Evacuate area. Identify source of leak or spill and contain with sand, earth, or containment bin. Then proceed to clean up spill or leak.

**Method for cleaning up:** Recover all usable material. Residual may be removed by wipe or wet mope. Rinse area with plenty of water and mop to sanitary sewer.

No special handling is required. Keep in a closed plastic container. Store at ambient temperature. Avoid contact with eyes. Wash hands thoroughly after handling. **This product is non-hazardous for storage and transport according to the U.S.**

**Department of Transportation Regulations.**

This material does not meet the definition of a hazardous material according to 49 CFR, ICAO, IMDG and the UN Orange Book.

**Precautionary measures:** No special requirements under normal use conditions.

**Exposure Limits:** The D/2 Biological Solution formulation presents no health hazards to the user, other than mild eye irritancy.

**Eye protection:** Caution, including reasonable eye protection, should always be used to avoid eye contact where splashing may occur, such as during spray applications.

**Respiratory Protection:** No special precautions required.

**Ventilation:** No special ventilation is required during normal use.

**Skin protection:** No special precautions required; rinse completely from skin after contact.

**General hygiene conditions:** There are no known hazards associated with this material when used as recommended. The following general hygiene considerations are recognized as common good industrial hygiene practices:

- Avoid breathing vapor or mist.
- Avoid contact with eyes.
- Wash thoroughly after handling and before eating, drinking, or smoking.

<b>Appearance:</b>	Clear Liquid	<b>Freezing Point:</b>	-9 °C (16 °F)
<b>Odor:</b>	Very faint detergent-like odor	<b>Boiling Point:</b>	98 °C (209 °F)
<b>pH:</b>	9.5	<b>Specific Gravity:</b>	1.011
<b>Evaporation Rate:</b>	0.4 (butyl acetate = 1)	<b>Vapor Pressure:</b>	20.7 mm Hg
<b>Water Solubility:</b>	100%	<b>Vapor Density:</b>	1.3 (air = 1)

Stability: Stable.

Materials to Avoid: **Contains ammoniated compounds – do not mix with bleach, tub & tile cleaner, mold/mildew removers, or chlorinated compounds.**

Hazardous Decomposition Products: None expected

Toxicity Data: Available from relevant laboratory testing of ingredients or similar mixtures.

**Acute Toxicity:** Oral LD<sub>50</sub>: >2.0 g/kg body weight Dermal LD<sub>50</sub>: Not estimated

**Eye Irritation:** With or without rinsing with water, the irritation scores in rabbits at 24 hours did not exceed 17 (mild irritant) on a scale of 110 (extremely irritating); all scores were normal at seven days.

**Dermal Irritation:** In a standard test on rabbits, mild irritation was found at 72 hours; well-defined reddening was observed at 7 and 14 days after exposure.

**Dermal Sensitization:** No allergic reactions occurred in guinea pigs treated with D/2 Biological Solution.

**Carcinogenicity:** D/2 Biological Solution contains no carcinogenic compounds as defined by the National Toxicology Program (NTP), the international Agency for Research on Carcinogens (IARC), or the Occupational Health and Safety Administration (OSHA).

**Biodegradability:** All components are inherently biodegradable.

**Ecotoxicity:** Not Tested.

**Unused Product:** \* Dilute with water 1:10 (1 part D/2 to 10 parts water) and dispose by sanitary sewer.

**Used Product:** \*Used product may be hazardous depending on the cleaning application and resulting contaminants.

**Empty Containers:** \*Triple-rinse with water and offer for recycling if available. Otherwise, dispose as non-hazardous waste.

\*Dispose of used or unused product, and empty containers in accordance with the local, State, Provincial, and Federal regulations for your location. Never dispose of used degreasing rinsates into lakes, streams, and open bodies of water or storm drains.

**This product is non-hazardous for storage and transport according to the U.S. Department of Transportation Regulations.** D/2 Biological Solution requires no special labeling or placarding to meet U.S. Department of Transportation requirements.

IATA Proper Shipping Name: Detergent solution Hazard Class: Nonhazardous UN Number: Not Required

\*Reportable components: None. The U.S. Environmental Protection Agency (EPA) has determined that propylene glycol\_ethers are not included within the listed category "glycol ethers" under either EPCRA §313 Toxic Release Inventory or Clean Air Act §112 Hazardous Air Pollutants (both lists include only ethylene glycol ethers). Nor are propylene glycol ethers included in the various EPA Resource Conservation and Recovery Act, and Clean Water Act lists, nor the California Proposition 65 lists.

All components are listed on: EINECS and TSCA Inventory

No components listed under: Clean Air Act Section 112

RCRA Status: Not a hazardous waste.

CERCLA Status: No components listed

TSCA TRI Reporting: Not required / Not listed

CA PROP. 65 Status: No components listed

**Technical information contact:**

**D/2 Biological Solution**  
PO Box 3746  
Westport, MA 02790

**DISCLAIMER :** All information appearing herein is based upon data obtained by the manufacturer and recognized technical sources. Judgments as to the suitability of information herein for purchaser's purposes are necessarily purchaser's responsibility. Therefore, although reasonable care has been taken in the preparation of this information, D/2 Biological Solutions, inc. or its distributors extends no warranties, makes no representations and assumes no responsibility as to the suitability of such information for application to purchaser's intended purposes or for consequences of its use.