

Material Safety Data Sheet



DuPont™ Biosolve™ Plus

Version 2.1

Revision Date 07/24/2014

Ref. 130000028604

This SDS adheres to the standards and regulatory requirements of Canada and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : DuPont™ Biosolve™ Plus
Tradename/Synonym : DuPont™ Biosolve™ Plus Multipurpose Heavy Duty Cleaner
MSDS Number : 130000028604
Product Use : Cleaning agent
Manufacturer : DuPont
1007 Market Street
Wilmington, DE 19898
Product Information : 1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency : CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Potential Health Effects
Skin : May cause: Corrosion, Effects of skin contacts may include:, Severe skin irritation, Burns.
Eyes : May cause: Severe irritation, Other effects may include:, corneal damage, Impairment of vision, Blindness.
Inhalation : May cause irritation of respiratory tract.
Ingestion : Effects due to ingestion may include: Irritation, Nausea, Diarrhoea, Prolonged contact may cause:, Burns.
Carcinogenicity
None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.


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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Sodium hydroxide	1310-73-2	7 - 13 %
Polyethylene oxide monoisodecyl ether	61827-42-7	1 - 5 %
REACTION PRODUCT(4,5-DIHYDRO-2-NORCOCO ALKYL-1H-IMIDAZOLE-1-ETHANOL/SODIUM CHLOROACETATE/SODIUM HYDROXIDE)	68608-65-1	1 - 5 %
Tetrasodium ethylene diamine tetraacetate	64-02-8	1 - 5 %
Water	7732-18-5	>75%

SECTION 4. FIRST AID MEASURES

- Skin contact : In case of contact, immediately flush skin with plenty of water. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Consult a physician if necessary.
- Eye contact : Rinse immediately with plenty of water and seek medical advice.
- Inhalation : Move to fresh air. Consult a physician if necessary.
- Ingestion : Call a poison control center or doctor for treatment advice. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Do not give anything by mouth to an unconscious person.

SECTION 5. FIREFIGHTING MEASURES

- Flammable Properties
- Flash point : > 93 °C (> 199 °F)
Method : Pensky-Martens closed cup - PMCC



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- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Firefighting Instructions : Wear self-contained breathing apparatus (SCBA). Wear suitable protective equipment.
Evacuate personnel to safe areas.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

- Safeguards (Personnel) : Wear suitable protective equipment. Wear respiratory protection.
- Spill Cleanup : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
- Accidental Release Measures : Prevent material from entering sewers, waterways, or low areas.

SECTION 7. HANDLING AND STORAGE

- Handling (Personnel) : Avoid inhalation, ingestion and contact with skin and eyes. Do not get on clothing. Wash off with plenty of water. Wash clothing after use.
Do not breathe vapours or spray mist. When using do not eat, drink or smoke.
- Storage : Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. Keep container closed when not in use.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering controls : Ensure adequate ventilation.
- Personal protective equipment
Respiratory protection : Provide adequate ventilation. Use NIOSH approved respiratory protection.

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- Hand protection : Material: Impervious gloves
- Eye protection : Wear coverall chemical splash goggles and face shield when the possibility exists for eye and face contact due to splashing or spraying of material.
- Skin and body protection : Where there is potential for skin contact, have available and wear as appropriate, impervious gloves, apron, pants, jacket, hood and boots.

Exposure Guidelines Exposure Limit Values

Sodium hydroxide				
TLV	(ACGIH)	2 mg/m3		TLV-C
AEL *	(DUPONT)	2 mg/m3		15 minute TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	: viscous liquid
Color	: blue
Odor	: strong, aliphatic
pH	: 13 - 14
Freezing point	: 0 °C (32 °F)
Boiling point	: 100 °C (212 °F)
% Volatile	: 61 - 63 %
Vapour Pressure	: 760 mm Hg at 100 °C (212 °F)
Density	: 9.34 - 9.51 lb/gal
Density	: 1.12 - 1.14 GJ
Specific gravity	: 1.13
Water solubility	: completely soluble100%

SECTION 10. STABILITY AND REACTIVITY



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- Conditions to avoid : Stable at normal temperatures and storage conditions.
- Incompatibility : Metals Acids, oxidizers
- Hazardous decomposition products : Decomposition does not occur under normal use conditions.
- Hazardous reactions : Polymerization will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Sodium hydroxide

Skin irritation : Causes severe burns., multiple species

Eye irritation : Corrosive, Rabbit

Skin sensitization : Does not cause skin sensitisation., human

Repeated dose toxicity : Inhalation
Rat

No toxicologically significant effects were found.

Oral
Rat

No toxicologically significant effects were found.

Carcinogenicity : Not classifiable as a human carcinogen.
Overall weight of evidence indicates that the substance is not carcinogenic.

Mutagenicity : Animal testing did not show any mutagenic effects.
Evidence suggests this substance does not cause genetic damage in animals.

Reproductive toxicity : No toxicity to reproduction
No effects on or via lactation
Evidence suggests the substance is not a reproductive toxin in animals.

Teratogenicity : Evidence suggests the substance is not a developmental toxin in animals.



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Polyethylene oxide monoisodecyl ether

Oral LD50 : > 2,000 mg/kg , Rat

Skin irritation : Skin irritation, Rabbit

Eye irritation : Rabbit

REACTION PRODUCT(4,5-DIHYDRO-2-NORCOCO ALKYL-1H-IMIDAZOLE-1-ETHANOL/SODIUM CHLOROACETATE/SODIUM HYDROXIDE)

Skin irritation : Rabbit irritant

Eye irritation : Rabbit irritant
 Information given is based on data obtained from similar substances.

Tetrasodium ethylene diamine tetraacetate

Oral LD50 : 1,658 mg/kg , Rat

Skin irritation : No skin irritation, Rabbit slight irritation

Eye irritation : Severe eye irritation, Rabbit

Skin sensitization : Does not cause skin sensitisation., Guinea pig

Repeated dose toxicity : Oral Rat

No toxicologically significant effects were found.

Inhalation Rat

Respiratory irritation

Carcinogenicity : Not classifiable as a human carcinogen.
 Animal testing did not show any carcinogenic effects.

Mutagenicity : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
 Animal testing did not show any mutagenic effects.

Reproductive toxicity : No toxicity to reproduction
 Animal testing showed no reproductive toxicity.



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Teratogenicity : Animal testing showed no developmental toxicity.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity

Sodium hydroxide

96 h LC50 : *Poecilia reticulata* (guppy) 56 mg/l

48 h LC50 : *Ceriodaphnia Dubia* (water flea) 40 mg/l

Tetrasodium ethylene diamine tetraacetate

96 h LC50 : *Lepomis macrochirus* (Bluegill sunfish) 121 mg/l

72 h ErC50 : *Desmodesmus subspicatus* (green algae) > 100 mg/l Directive 67/548/EEC, Annex V, C.3.

72 h NOEC : *Desmodesmus subspicatus* (green algae) 100 mg/l Directive 67/548/EEC, Annex V, C.3.

24 h EC50 : *Daphnia magna* (Water flea) 610 mg/l ISO 6341

35 d : NOEC *Danio rerio* (zebra fish) > 25.7 mg/l OECD Test Guideline 210

21 d : NOEC *Daphnia magna* (Water flea) 25 mg/l

Environmental Fate

Tetrasodium ethylene diamine tetraacetate

Biodegradability : 10 % OECD Test Guideline 302B
Not readily biodegradable.

Bioaccumulation : *Lepomis macrochirus* (Bluegill sunfish)
Bioconcentration factor (BCF) : 1.8
Bioaccumulation is unlikely.

SECTION 13. DISPOSAL CONSIDERATIONS

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Waste Disposal : In accordance with local and national regulations. Do not flush into surface water or sanitary sewer system. Do not contaminate water, food or feed by disposal.

SECTION 14. TRANSPORT INFORMATION

TDG_ROAD	UN number	: 1824
	Proper shipping name	: SODIUM HYDROXIDE SOLUTION
	Class	: 8
	Packing group	: II
	Labelling No.	: 8
TDG_RAIL	UN number	: 1824
	Proper shipping name	: SODIUM HYDROXIDE SOLUTION
	Class	: 8
	Packing group	: II
	Labelling No.	: 8
IATA_C	UN number	: 1824
	Proper shipping name	: Sodium hydroxide solution
	Class	: 8
	Packing group	: II
	Labelling No.	: 8
IMDG	UN number	: 1824
	Proper shipping name	: SODIUM HYDROXIDE SOLUTION
	Class	: 8
	Packing group	: II
	Labelling No.	: 8

SECTION 15. REGULATORY INFORMATION

TSCA (US) Status : On the inventory, or in compliance with the inventory

WHMIS Classification : E - Corrosive material

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Remarks : This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

SECTION 16. OTHER INFORMATION

MSDS preparation date : 07/24/2014

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Contact person : MSDS Coordinator, DuPont Chemicals and Fluoroproducts, Wilmington, DE 19898, (800) 441-7515

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