

MATERIAL SAFETY DATA SHEET



Bayer MaterialScience

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Product Safety & Regulatory Affairs
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USA

TRANSPORTATION EMERGENCY

CALL CHEMTREC: (800) 424-9300
INTERNATIONAL: (703) 527-3887

NON-TRANSPORTATION

Emergency Phone: Call Chemtrec
Information Phone: (800) 662-2927

1. Product and Company Identification

Product Name: BAYSEAL 3.0 W
Material Number: 81137332
Chemical Family: Polyol System

2. Hazards Identification

Emergency Overview

Warning Color: Amber, Brown **Form:** liquid **Odor:** slight, Ether, Amine.
May cause eye, skin, and respiratory tract irritation. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Vapor reduces oxygen available for breathing. May cause allergic respiratory reaction. May cause allergic skin reaction. May cause a temporary fogging of the eyes. May affect nervous system. May cause irregular heartbeat. May cause liver damage. May cause kidney damage.

Potential Health Effects

Primary Routes of Entry: Skin Contact, Eye Contact, Inhalation

Medical Conditions Aggravated by Exposure: Eye disorders, Respiratory disorders, Skin disorders

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Inhalation

Acute Inhalation

For Component: Hydrofluorocarbon

Overexposure to vapor may produce dizziness, drowsiness, or nausea. May induce cardiac arrhythmia (irregular heartbeat) in some individuals. Vapor can reduce oxygen available for breathing. May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

For Component: Chlorinated Phosphate Ester

May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

For Component: Tertiary Amine

Causes respiratory tract irritation with symptoms of coughing, sore throat and runny nose. May cause allergic respiratory reaction with symptoms of coughing, wheezing, shortness of breath, bronchospasm, and reduced lung function.

For Component: Tertiary Amine

Corrosive with symptoms of coughing, burning, ulceration, and pain.

For Component: Tertiary Amine

May cause pulmonary edema with symptoms of breathing difficulty and tightness of chest.

Chronic Inhalation

For Component: Tertiary Amine

May cause pulmonary edema with symptoms of breathing difficulty and tightness of chest.

Skin

Acute Skin

For Component: Polymer

Causes irritation with symptoms of reddening, itching, and swelling.

For Component: Hydrofluorocarbon

Slightly toxic by skin absorption. May cause slight irritation.

For Component: Chlorinated Phosphate Ester

May cause slight irritation.

For Component: Tertiary Amine

May cause allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage. Moderately toxic by skin absorption.

For Component: Tertiary Amine

Toxic by skin absorption. Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage.

For Component: Tertiary Amine

Toxic by skin absorption.

Chronic Skin

For Component: Tertiary Amine

Repeated and prolonged contact may cause an allergic skin reaction in sensitive individuals.

Eye

Acute Eye

For Component: Polymer

Causes irritation with symptoms of reddening, tearing, stinging, and swelling.

For Component: Hydrofluorocarbon

May cause slight irritation.

For Component: Chlorinated Phosphate Ester

Not expected to be irritating.

For Component: Tertiary Amine

Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage. Vapors can cause temporary corneal edema with symptoms of blurred vision or the appearance of halos around bright objects.

For Component: Tertiary Amine

Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage. Vapors can cause temporary corneal edema with symptoms of blurred vision or the appearance of halos around bright objects.

For Component: Tertiary Amine

Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage.

Chronic Eye

For Component: Tertiary Amine

Prolonged vapor contact may cause conjunctivitis.

Ingestion

Acute Ingestion

For Component: Chlorinated Phosphate Ester

May be harmful if swallowed. Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea. Moderately toxic by ingestion.

For Component: Tertiary Amine

May be harmful if swallowed. May cause digestive tract burns.

For Component: Tertiary Amine

Moderately toxic by ingestion. Corrosive to the digestive tract with symptoms of burning and ulceration.

For Component: Tertiary Amine

Corrosive to the digestive tract with symptoms of burning and ulceration.

Chronic Ingestion

For Component: Chlorinated Phosphate Ester

May cause liver damage. May cause kidney damage.

Carcinogenicity:

No Carcinogenic substances as defined by IARC, NTP and/or OSHA

3. Composition/Information on Ingredients

Hazardous components

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
35 - 45%	Polymer	CAS# is a trade secret
5 - 10%	Hydrofluorocarbon	460-73-1
3 - 7%	Chlorinated Phosphate Ester	CAS# is a trade secret
1 - 5%	Tertiary Amine	CAS# is a trade secret
0.1 - 1%	Tertiary Amine	CAS# is a trade secret
0.1 - 1%	Tertiary Amine	CAS# is a trade secret

4. First aid measures

Eye contact

In case of contact, flush eyes with plenty of lukewarm water. Get medical attention if irritation develops.

Skin contact

In case of skin contact, wash affected areas with soap and water. Immediately remove contaminated clothing and shoes. Get medical attention if irritation develops.

Inhalation

If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration using a pocket mask type resuscitator. Get medical attention.

Ingestion

If ingested, do not induce vomiting unless directed to do so by medical personnel. Get medical attention.

5. Firefighting measures

Suitable extinguishing media: Carbon dioxide (CO₂), Dry chemical, Foam, water spray for large fires.

Special Fire Fighting Procedures

Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture.

6. Accidental release measures**Spill and Leak Procedures**

Cover spill with inert material (e. g., dry sand or earth) and collect for proper disposal. Use appropriate personal protective equipment during clean up. Evacuate and keep unnecessary people out of spill area.

7. Handling and storage**Storage temperature:**

minimum: 21.11 °C (70 °F)

maximum: 26.67 °C (80 °F)

Storage period

6 Months

Handling/Storage Precautions

Handle in accordance with good industrial hygiene and safety practices. Wash thoroughly after handling. Keep container closed when not in use. Material is hygroscopic and may absorb small amounts of atmospheric moisture. If contamination with isocyanates is suspected, do not reseal containers. Avoid contact with eyes. Avoid contact with skin or clothing. Do not breathe vapours/dust.

Further Info on Storage Conditions

Store materials between 70°F to 80°F (21°C to 27°C) in a dry and well ventilated area for a minimum of 48 hours prior to application of material. The transit temperature range is 32°F to 100°F (0°C to 38°C). The pressure in sealed containers can increase under the influence of heat. Protect against heat and direct sunlight.

8. Exposure controls/personal protection

Country specific exposure limits have not been established or are not applicable

Personal protective equipment

Avoid contact with skin, eyes and clothing.

Industrial Hygiene/Ventilation Measures

When handling this product, ventilation of the work area is recommended.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment., In spray applications, an organic vapor/particulate respirator or air supplied unit is necessary.

Hand protection

When this product is sprayed in combination with polymeric MDI ("A" side), fabric gloves coated in nitrile, neoprene, butyl or PVC are recommended. When handling liquid product, nitrile, neoprene, butyl or PVC gloves are recommended.

Eye protection

Chemical safety goggles or safety glasses with side-shields.

Skin and body protection

Wear as appropriate:, disposable one-piece overall with integral hood, Impervious protective clothing.

Additional Protective Measures

Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product.

9. Physical and chemical properties

Form:	liquid
Color:	Amber, Brown
Odor:	slight, Ether, Amine
Vapour pressure:	1,227 hPa
Specific Gravity:	1.14
Solubility in Water:	Partially soluble
Bulk density:	Approximately 1,138 kg/m ³

10. Stability and reactivity

Hazardous Reactions

Hazardous polymerisation does not occur.

Stability

Stable

Materials to avoid

Oxidizing agents, Isocyanates

Hazardous decomposition products

By Fire: Carbon Dioxide; Carbon Monoxide; Hydrogen cyanide, Nitrogen oxides (NO_x), Amines, Hydrogen chloride gas, Hydrogen fluoride, Carbonyl halides, Oxides of phosphorus, Other hazardous decomposition products may be formed.

11. Toxicological information

Toxicity Data for Polymer

Toxicity Note

Toxicity data is based on a similar product.

Acute oral toxicity

LD50: 1,370 mg/kg (rat)

Acute dermal toxicity

LD50: 12800 (rabbit)

Toxicity Data for Hydrofluorocarbon

Acute inhalation toxicity

LC50: > 200000 ppm, 4 h (Rat)

Acute dermal toxicity

LD50: > 2,000 mg/kg (rat)

Skin irritation

rabbit, Non-irritating

Eye irritation

rabbit, Mild eye irritation

Sensitisation

non-sensitizer

Repeated dose toxicity

28 d, inhalation: NOAEL: 50,000 ppm, (Rat)

90 d, Inhalation: NOAEL: 2000 ppm, (Rat)

Mutagenicity

Genetic Toxicity in Vitro:

Cytogenetic assay: ambiguous (human lymphocytes, Metabolic Activation: with/without)

Ames: negative (Metabolic Activation: with/without)

Genetic Toxicity in Vivo:

Micronucleus Assay: negative (mouse)

negative

Developmental Toxicity/Teratogenicity

No Teratogenic effects observed at doses tested.

Toxicity Data for Chlorinated Phosphate Ester

Acute oral toxicity

LD50: 632 mg/kg (rat)

Acute inhalation toxicity

LC50: > 17,800 mg/l, 1 h (rat, Male/Female)

aerosol

Acute dermal toxicity

LD50: > 5,000 mg/kg (rabbit, Male/Female)

Skin irritation

Human, Patch Test, No skin irritation

rabbit, No skin irritation

Eye irritation

rabbit, Draize, Exposure Time: 24 h, slight irritant

Sensitisation

dermal: non-sensitizer (guinea pig, Maximization Test)

dermal: non-sensitizer (Human, Patch Test)

Repeated dose toxicity

90 Days, oral: NOAEL: 36 mg/kg, (Rat, male)

Mutagenicity

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Positive and negative results were reported.

Mammalian cell - gene mutation assay: positive (Mouse lymphoma cells (L5178Y/TK), Metabolic Activation: with)

Positive and negative results were reported.

Toxicity to Reproduction/Fertility

Other method, inhalation, daily, (rat, male)

Reproductive effects have been observed in animal studies.

Developmental Toxicity/Teratogenicity

rat, female, oral, gestation, daily, NOAEL (teratogenicity): > 1%, NOAEL (maternal): > 1%

No Teratogenic effects observed at doses tested., No fetotoxicity observed at doses tested.

Toxicity Data for Tertiary Amine**Acute oral toxicity**

LD50: 2,000 mg/kg (Rat)

Acute inhalation toxicity

LC50: 6.1 mg/l, (Rat)

Acute dermal toxicity

LD50: 1,220 - 3,135 mg/kg (rabbit)

Skin irritation

rabbit, Draize, Mild skin irritation

rabbit, OECD Guideline for Testing of Chemicals, No. 404, Exposure Time: 1 h, Corrosive

Eye irritation

rabbit, Draize, Corrosive

Sensitisation

dermal: sensitizer (mouse, Mouse local lymphoma assay)

Repeated dose toxicity

90 Days, inhalation: NOAEL: 24 ppm, (Rat, Male/Female, 6 hrs/day 5 days/week)

Irritation to lungs and nasal cavity. Reduced body weight gain.

Carcinogenicity

mouse, females, oral, 123 weeks,
negative

Toxicity to Reproduction/Fertility

inhalation, daily, (Rat, Female) NOAEL (parental): 10 ppm, NOAEL (F2): 100 ppm
No effects on Reproductive parameters observed at doses tested.

Developmental Toxicity/Teratogenicity

rat, female, inhalation, gestation, NOAEL (teratogenicity): 100 ppm, NOAEL (maternal): 10 ppm
No Teratogenic effects observed at doses tested., No fetotoxicity observed at doses tested.

Toxicity Data for Tertiary Amine**Acute oral toxicity**

LD50: 1,045 mg/kg (Rat)

Acute inhalation toxicity

LC50: 2.09 mg/l, 6 h (Rat)

Acute dermal toxicity

LD50: 230 mg/kg (rabbit)

Skin irritation

Corrosive

Eye irritation

Corrosive

Toxicity Data for Tertiary Amine**Acute oral toxicity**

LD50: 3,250 uL/kg (Rat)

LD50: 2,800 mg/kg (Rat)

Acute dermal toxicity

LD50: > 1,000 mg/kg (rabbit)

Skin irritation

rabbit, Corrosive

12. Ecological information**Ecological Data for Hydrofluorocarbon****Acute and Prolonged Toxicity to Fish**

LC50: > 81.8 mg/l (Rainbow trout (Salmo gairdneri), 48 h)

Acute Toxicity to Aquatic Invertebrates

EC50: > 97.9 mg/l (Water flea (Daphnia magna), 96 h)

Ecological Data for Chlorinated Phosphate Ester**Biodegradation**

Aerobic, 0 %, Exposure time: 28 Days, Not readily biodegradable.

Bioaccumulation

Cyprinus carpio (Carp), Exposure time: 42 Days, ca. 0.8 - 2.8 BCF

Acute and Prolonged Toxicity to Fish

LC50: ca. 84 mg/l (Bluegill (Lepomis macrochirus), 96 h)
LC50: 51 mg/l (Fathead minnow (Pimephales promelas), 96 h)
LC50: 30 mg/l (Guppy (Poecilia reticulata), 96 h)

Acute Toxicity to Aquatic Invertebrates

EC50: ca. 131 mg/l (Water flea (Daphnia magna), 48 h)

Toxicity to Aquatic Plants

EC50: 45 mg/l, End Point: biomass (Green algae (Scenedesmus subspicatus), 72 h)
EC50: 41 - 55 mg/l, End Point: biomass (Green algae (Selenastrum capricornutum), 96 h)

Toxicity to Microorganisms

EC50: 295 mg/l, (Photobacterium phosphoreum, 30 min)
EC50: 784 mg/l, (Activated sludge microorganisms, 3 h)

Ecological Data for Tertiary Amine

Biodegradation

aerobic, > 90 %, Exposure time: 13 Days, i.e. readily biodegradable

Biochemical Oxygen Demand (BOD)

285 O₂/g

Chemical Oxygen Demand (COD)

485 O₂/g

Acute and Prolonged Toxicity to Fish

LC50: 81 mg/l (Fathead minnow (Pimephales promelas), 96 h)
LC50: 100 - 220 mg/l (Golden orfe (Leuciscus idus), 96 h)

Acute Toxicity to Aquatic Invertebrates

EC50: 98 mg/l (Water flea (Daphnia magna), 48 h)

Toxicity to Aquatic Plants

EC50: 35 mg/l, (Green algae (Scenedesmus subspicatus), 72 h)

Toxicity to Microorganisms

EC50: > 8,000 mg/l, (Pseudomonas putida, 71 h)

Ecological Data for Tertiary Amine

Biodegradation

Not readily biodegradable.

Acute and Prolonged Toxicity to Fish

LC50: 220 mg/l (Golden orfe (Leuciscus idus), 96 h)

Ecological Data for Tertiary Amine

Additional Ecotoxicological Remarks

No data available for this component.

13. Disposal considerations

Waste Disposal Method

Waste disposal should be in accordance with existing federal, state and local environmental control laws.

Empty Container Precautions

Recondition or dispose of empty container in accordance with governmental regulations.

14. Transport information

Land transport (DOT)

Non-Regulated

Sea transport (IMDG)

Non-Regulated

Air transport (ICAO/IATA)

Proper shipping name: Aviation regulated liquid, n.o.s. (contains Hydrofluorocarbon)
Hazard Class or Division: 9
UN number: UN3334
Packaging group: III
Hazard Label(s): MISCELLANEOUS

15. Regulatory information

United States Federal Regulations

OSHA Hazcom Standard Rating: Hazardous

US. Toxic Substances Control Act: Listed on the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302):

Components

None

SARA Section 311/312 Hazard Categories:

Acute Health Hazard, Chronic Health Hazard

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):

Components

None

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:

Components

None

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261)

Under RCRA, it is the responsibility of the person who generates a solid waste, as defined in 40 CFR 261.2, to determine if that waste is a hazardous waste.

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
35 - 45%	Polymer	CAS# is a trade secret
>=1%	Polyester Polyol	CAS# is a trade secret
>=1%	Polyether Polyol	CAS# is a trade secret
5 - 10%	Hydrofluorocarbon	460-73-1
3 - 7%	Chlorinated Phosphate Ester	CAS# is a trade secret
1 - 5%	Tertiary Amine	CAS# is a trade secret

New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous Substances Lists:

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
0.1 - 1%	Ethylene Glycol	107-21-1

Pennsylvania Right to Know Special Hazard Substance List:

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
<0.1%	1,4-Dioxane	123-91-1

MA Right to Know Extraordinarily Hazardous Substance List:

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
<0.1%	1,4-Dioxane	123-91-1

California Prop. 65:

Warning! This product contains chemical(s) known to the State of California to be Carcinogenic.

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
<0.1%	1,4-Dioxane	123-91-1
5 - 10 ppb	Formaldehyde	50-00-0

16. Other information

NFPA 704M Rating

Health	2
Flammability	1
Reactivity	0
Other	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS Rating

Health	2*
Flammability	1
Physical Hazard	0

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

* = Chronic Health Hazard

The method of hazard communication for Bayer MaterialScience LLC is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Bayer MaterialScience LLC as a customer service.

Contact person: Product Safety Department
Telephone: (412) 777-2835
MSDS Number: 112000031331
Version Date: 01/08/2014
Report version: 2.7

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|| Changes since the last version are highlighted in the margin. This version replaces all previous versions.