

SAFETY DATA SHEET



1. Identification

Covestro LLC
formerly Bayer MaterialScience LLC
1 Covestro Circle
Pittsburgh, PA 15205
USA

TRANSPORTATION EMERGENCY

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

NON-TRANSPORTATION

Emergency Phone: Call Chemtrec
Information Phone: (844) 646-0545

Product Name: BAYSYSTEMS 486STAR 4#GD

Material Number: 82271733

Chemical Family: Polyol System

Use: Polyol components for the production of polyurethanes

2. Hazards Identification

GHS Classification

Skin irritation: Category 2
Eye irritation: Category 2A
HNOC - Halo vision:

GHS Label Elements

Hazard pictograms:



Signal word: Warning

Hazard statements: Causes skin irritation.
Causes serious eye irritation.
Vapors can cause temporary corneal edema with symptoms of blurred vision or the appearance of halos around bright objects.

Precautionary statements:

Prevention:

Wash skin and face thoroughly after handling.
Wear eye and face protection.
Wear protective gloves.

Response:

IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.

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If skin irritation occurs: Get medical attention.
If eye irritation persists: Get medical attention.
Take off contaminated clothing and wash before reuse.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
9 %

3. Composition/Information on Ingredients

Hazardous Components

<u>Weight Percent</u>	<u>Components</u>	<u>CAS-No.</u>	<u>Classification</u>
10 - 20%	Polyether Polyol	CAS# is a trade secret	Eye irritation Category 2A.
1 - 5%	Tertiary Amine	CAS# is a trade secret	Flammable liquids Category 3. Acute toxicity Category 4 Oral. Acute toxicity Category 3 Inhalation. Acute toxicity Category 4 Dermal. Skin corrosion Category 1A. Serious eye damage Category 1. HNOC - Halo vision. Flammable liquids Category 3.
0.1 - 1%	Tertiary Amine	CAS# is a trade secret	Acute toxicity Category 4 Oral. Skin irritation Category 2. Serious eye damage Category 1. Specific target organ toxicity - single exposure Category 3 Respiratory system. HNOC - Halo vision. Flammable liquids Category 4.

The specific chemical identity and/or exact percentage of component(s) have been withheld as a trade secret.

4. First Aid Measures

Most Important Symptom(s)/Effect(s)

Acute: Causes skin irritation with symptoms of reddening, itching, and swelling., Causes serious eye irritation with symptoms of reddening, tearing, swelling, and burning., Vapors can cause temporary corneal edema with symptoms of blurred vision or the appearance of halos around bright objects.

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

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If inhaled, remove to fresh air. Get medical attention if irritation develops.

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.

Unsuitable Extinguishing Media No Data Available

Fire Fighting Procedure

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.

Hazardous Decomposition Products

By Fire: Carbon Dioxide Carbon Monoxide other aliphatic fragments which have not been determined

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

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 breathing dust, vapor, or mist. Avoid contact with eyes. Avoid contact with skin or clothing.

Storage Period:

6 Months

Storage Temperature

Maximum: 50 °C (122 °F)

Substances to Avoid

Oxidizing agents, Isocyanates

8. Exposure Controls/Personal Protection

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

Any component which is listed in section 3 and is not listed in this section does not have a known ACGIH TLV, OSHA PEL or supplier recommended occupational exposure limit.

Personal protective equipment

Avoid contact with skin, eyes and clothing.

Industrial Hygiene/Ventilation Measures

Use local and general exhaust ventilation to control levels of exposure.

Respiratory Protection

In case of insufficient ventilation, wear suitable respiratory equipment., NIOSH approved, air-purifying respirator with organic vapor cartridges and P-95 filters., At higher concentrations or under uncertain conditions a respirator with independent air supply must be used.

Hand Protection

Permeation resistant gloves., butyl-rubber, Nitrile rubber, Neoprene gloves

Eye Protection

Chemical safety goggles or safety glasses with side-shields.

Skin Protection

Wear as appropriate:, 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

State of Matter:	liquid
Color:	Colorless, Amber
Odor:	Mild
Odor Threshold:	No Data Available
pH:	No Data Available
Freezing Point:	No Data Available
Boiling Point:	No Data Available
Flash Point:	> 93.34 °C (200.01 °F)
Evaporation Rate:	No Data Available
Lower Explosion Limit:	No Data Available
Upper Explosion Limit:	No Data Available
Vapor Pressure:	No Data Available
Vapor Density:	No Data Available
Density:	No Data Available
Relative Vapor Density:	No Data Available
Specific Gravity:	Not Established
Solubility in Water:	No Data Available
Partition Coefficient: n-octanol/water:	No Data Available
Auto-ignition Temperature:	No Data Available
Decomposition Temperature:	No Data Available
Dynamic Viscosity:	No Data Available
Kinematic Viscosity:	No Data Available

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; other aliphatic fragments which have not been determined

11. Toxicological Information**Likely Routes of Exposure:**

Skin Contact

Eye Contact

Health Effects and Symptoms

Acute: Causes skin irritation with symptoms of reddening, itching, and swelling., Causes serious eye irritation with symptoms of reddening, tearing, swelling, and burning., Vapors can cause temporary corneal edema with symptoms of blurred vision or the appearance of halos around bright objects.

Chronic: Not expected to cause adverse chronic health effects.

Toxicity Data for: BAYSYSTEMS 486STAR 4#GD**Acute Oral Toxicity**

Acute toxicity estimate: > 5000 mg/kg (Calculation method)

Acute Inhalation Toxicity

Acute toxicity estimate: 7.76 mg/l, 4 h, dust/mist (Calculation method)

Acute Dermal Toxicity

Acute toxicity estimate: > 5000 mg/kg (Calculation method)

Toxicity Data for Polyether Polyol**Acute Oral Toxicity**

LD50: > 2000 mg/kg (rat, male/female) (OECD Test Guideline 401)

Acute Dermal Toxicity

LD50: > 2000 mg/kg (rat, male/female) (OECD Test Guideline 402)

Skin Irritation

rabbit, OECD Test Guideline 404, slight irritant

Eye Irritation

rabbit, moderate irritant

Toxicity Data for Tertiary Amine**Acute Oral Toxicity**

LD50: 1182.7 mg/kg (rat, male/female) (OECD Test Guideline 401)

LD50: 1203.2 mg/kg (rat, male) (OECD Test Guideline 401)

LD50: 1220.1 mg/kg (rat, female) (OECD Test Guideline 401)

Acute Inhalation Toxicity

LC50: 1641 ppm, 4 h, vapour(rat) (OECD Test Guideline 403)

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Acute Dermal Toxicity

LD50: 1370 mg/kg (rabbit)

Skin Irritation

rabbit, OECD Test Guideline 404, Exposure Time: 4 h, Corrosive

Eye Irritation

rabbit, Draize, Corrosive

Sensitization

dermal: sensitizer (Mouse, Mouse local lymphoma assay)

Respiratory sensitization: negative (Human)

Buehler Test: non-sensitizer (Guinea pig)

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.

Mutagenicity

Genetic Toxicity in Vitro:

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

Genetic Toxicity in Vivo:

In vivo micronucleus test: negative (Mouse, male/female, intraperitoneal)

negative

Carcinogenicity

Mouse, females, oral, 123 weeksnegative

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.Fertility Screening, Oral, daily, (rat)

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.

Other Relevant Toxicity Information

May cause irritation of respiratory tract.

Toxicity Data for Tertiary Amine**Acute Oral Toxicity**

LD50: 700 mg/kg (rat)

Acute Inhalation Toxicity

LC50: > 5 mg/l, 4 h, dust/mist(rat)

4 hour test is calculated.

LC50: > 20 mg/l, 1 h, dust/mist(rat)

Acute Dermal Toxicity

LD50: > 2000 mg/kg (rat)

Skin Irritation

Moderately irritating

Eye Irritation

rabbit, Severely irritating

Repeated Dose Toxicity

28 d, Oral: NOAEL: 100 mg/kg, (rat)

28 d, Inhalation: NOAEL: 0.0058 mg/l, (rat,)

Mutagenicity

Genetic Toxicity in Vivo:

Micronucleus Assay: negative (rat)

negative

Toxicity to Reproduction/Fertility

Oral, (rat, male/female) NOAEL (parental): 100 mg/kg,

Other Relevant Toxicity Information

May cause irritation of respiratory tract.

Carcinogenicity:

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

12. Ecological Information**Ecological Data for: BAYSYSTEMS 486STAR 4#GD**

No data available for this product.

Ecological Data for Polyether Polyol**Biodegradation**

aerobic, < 50 %, Exposure time: 28 d

Acute and Prolonged Toxicity to Fish

LC0: > 1,000 mg/l (Zebra fish (Brachydanio rerio), 48 h)

Toxicity to Microorganisms

EC0: > 1,000 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)

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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

7 %, Exposure time: 28 Days

Acute and Prolonged Toxicity to Fish

LC50: 1,730 mg/l (Fathead minnow (*Pimephales promelas*), 96 h)

Acute Toxicity to Aquatic Invertebrates

EC50: 92 mg/l (Water flea (*Daphnia magna*), 48 h)

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. Transportation Information

Land transport (DOT)

Non-Regulated

Sea transport (IMDG)

Non-Regulated

Air transport (ICAO/IATA)

Non-Regulated

15. Regulatory Information

United States Federal Regulations

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

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

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

None

SARA Section 311/312 Hazard Categories:

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Acute 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 SDS 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>
>=1%	Plasticizer	CAS# is a trade secret
>=1%	Polyether Polyol	CAS# is a trade secret
10 - 20%	Polyether Polyol	CAS# is a trade secret
>=1%	Polyether Polyol	CAS# is a trade secret
>=1%	Polyether Polyol	CAS# is a trade secret
1 - 5%	Tertiary Amine	CAS# is a trade secret

California Prop. 65:

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

Based on information provided by our suppliers, this product is considered "DRC Conflict Free" as defined by the SEC Conflict Minerals Final Rule (Release No. 34-67716; File No. S7-40-10; Date: 2012-08-22).

16. Other Information

The method of hazard communication for Covestro LLC is comprised of Product Labels and Safety Data Sheets.

Contact:	Product Safety Department
Telephone:	(412) 413-2835
SDS Number:	112000037481
Version Date:	08/28/2015
SDS Version:	2.0

This information is furnished without warranty, express or implied. This information is believed to be accurate to the best knowledge of Covestro LLC. The information in this SDS relates only to the specific material designated herein. Covestro LLC assumes no legal responsibility for use of or reliance upon the information in this SDS.

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

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