



Safety Data Sheet

BOSCODUR 4L
Revision Number 1

Revision Date 18-Mar-2019
Supersedes Date: 18-Mar-2019

1. Identification

1.1. Product Identifier

Product Name BOSCODUR 4L

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use This product contains isocyanates. Cross-linking agent.
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Responsible Party

Bostik Inc.
11320 W. Watertown Plank Road
Wauwatosa, Wisconsin 53226 USA
Phone: +1 (800) 843-0844 (Domestic Toll Free)
Phone: +1 (414) 774-2250 (International)
Fax: +1 (414) 774-8075

E-mail msds@bostik.com

1.4. Emergency telephone number

Telephone: 1-800-227-0332
(Outside U.S.) 1-703-527-3887

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2
Flammable liquids	Category 2

2.2. Label Elements

EMERGENCY OVERVIEW

Danger

Hazard statements

Causes skin irritation
Causes serious eye irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure
Highly flammable liquid and vapor

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Appearance No information available

Physical State Liquid

Odor Solvent

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ ventilating/ lighting/ equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

Precautionary Statements - Response

Get medical advice/attention if you feel unwell
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
In case of fire: Use CO₂, dry chemical, or foam to extinguish.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Unknown acute toxicity

14 % of the mixture consists of ingredient(s) of unknown toxicity

2.3. Other Information

May be harmful if swallowed.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Mixture

3.2 Mixtures

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Chemical name	CAS No.	Weight-%
Methyl ethyl ketone	78-93-3	60 - 100
Isocyanic acid, polymethylenepolyphenylene ester	9016-87-9	5 - 10
4,4'-Methylenediphenyl diisocyanate	101-68-8	3 - 7

**The exact percentage (concentration) of composition has been withheld as a trade secret.*

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice	If medical advice is needed, have product container or label at hand.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. May cause sensitization by skin contact. In the case of skin irritation or allergic reactions see a physician.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.
Ingestion	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
Self-protection of the first aider	Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	Irritating to eyes. Irritating to skin. May cause redness, itching, and pain. Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization in susceptible persons. Drowsiness. Dizziness.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	May cause sensitization by inhalation and skin contact. Treat symptomatically.
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4.4. Reference to Other Sections

Reference to other sections	See Section 12: ECOLOGICAL INFORMATION Section 7: HANDLING AND STORAGE Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION
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Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media

Use CO₂, dry chemical, or foam. Move containers from fire area if you can do it without risk.

Unsuitable extinguishing media

Use water spray or fog; do not use straight streams.

5.2. Special hazards arising from the substance or mixture

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Specific hazards arising from the chemical

Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.

Hazardous Combustion Products Carbon oxides.

Explosion Data

Sensitivity to mechanical impact None.
Sensitivity to static discharge May be ignited by friction, heat, sparks or flames.

5.3. Advice for firefighters

Special protective actions for fire-fighters

Move containers from fire area if you can do it without risk. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Remove all sources of ignition. Do not touch or walk through spilled material. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Do not get in eyes, on skin, or on clothing.

Other information Water spray may reduce vapor; but may not prevent ignition in closed spaces.

For emergency responders Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2. Environmental precautions

Environmental precautions Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Dike far ahead of spill; use dry sand to contain the flow of material. Contain and collect spillage 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).

Methods for cleaning up Use personal protective equipment as required. Dike far ahead of spill for later disposal. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Use clean non-sparking tools to collect absorbed material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly.

6.4. Reference to other sections

Reference to other sections See Section 12: ECOLOGICAL INFORMATION
Section 7: HANDLING AND STORAGE
Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Keep

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away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static charges. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes or clothing. After contact with skin, wash immediately with plenty of water and soap. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep only in the original container/package in a cool well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Store away from incompatible materials. Store in accordance with the particular national regulations.

Incompatible materials

Strong acids and bases.

7.3. Specific end use(s)

Specific Use(s)

Cross-linking agent.

Other information

No information available.

7.4. References to Other Sections

Reference to other sections

See Section 12: ECOLOGICAL INFORMATION
Section 7: HANDLING AND STORAGE
Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	NIOSH IDLH	OSHA PEL	Mexico
Methyl ethyl ketone 78-93-3	STEL: 300 ppm TWA: 200 ppm	IDLH: 3000 ppm TWA: 200 ppm TWA: 590 mg/m ³ STEL: 300 ppm STEL: 885 mg/m ³	TWA: 200 ppm TWA: 590 mg/m ³	TWA: 200 ppm TWA: 590 mg/m ³ STEL: 300 ppm STEL: 885 mg/m ³
4,4'-Methylenediphenyl diisocyanate 101-68-8	TWA: 0.005 ppm	IDLH: 75 mg/m ³ Ceiling: 0.020 ppm 10 min Ceiling: 0.2 mg/m ³ 10 min TWA: 0.005 ppm TWA: 0.05 mg/m ³	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m ³	-

Chemical name	Argentina	Brazil	Chile	Venezuela
Methyl ethyl ketone 78-93-3	TWA: 200 ppm STEL: 300 ppm	TWA: 155 ppm TWA: 460 mg/m ³	TWA: 175 ppm TWA: 516 mg/m ³	STEL: 300 ppm TWA: 200 ppm
4,4'-Methylenediphenyl diisocyanate 101-68-8	-	-	TWA: 0.004 ppm TWA: 0.05 mg/m ³	TWA: 0.005 ppm

8.2. Exposure controls

Engineering controls

Showers
Eyewash stations
Ventilation systems.

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Personal protective equipment [PPE]

Eye/face protection	Tight sealing safety goggles. Face protection shield.
Skin and body protection	Wear suitable chemical resistant gloves. The selection of suitable gloves does not only depend on the material, but also on further marks of quality and various manufacturers.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General hygiene considerations	Use personal protective equipment as required. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Wash face, hands and any exposed skin thoroughly after handling. Take off all contaminated clothing and wash it before reuse. Regular cleaning of equipment, work area and clothing is recommended.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid
Color	Brown
Odor	Solvent
Odor Threshold	No information available

Property	Values	Remarks • Method
pH	No information available	
Melting point / freezing point	No data available	
Boiling point / boiling range	> 79 °C / 174 °F	
Flash Point	-2 °C / 28 °F	
Evaporation Rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability or explosive limits	No information available	
Lower flammability or explosive limits	No information available	
Vapor Pressure	No information available	
Vapor Density	No information available	
Relative Density	No information available	
Water Solubility	No information available	
Solubility in Other Solvents		
Partition coefficient	No information available	
Autoignition Temperature	No information available	
Decomposition Temperature	No information available	
Kinematic Viscosity	No information available	
Dynamic Viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

9.2. Other information

Softening Point	No information available
Molecular Weight	No information available
Solvent content (%)	No information available
Solid content (%)	14.0
Density	.851 g/ml
VOC (volatile organic compound)	86 %

Section 10: STABILITY AND REACTIVITY

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10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

Hazardous Polymerization Hazardous polymerization may occur.

10.4. Conditions to avoid

Keep away from heat, sparks and flames.

10.5. Incompatible materials

Strong acids and bases.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide (CO₂). Nitrogen oxides (NO_x). Hydrogen cyanide. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Section 11: TOXICOLOGY INFORMATION

11.1. Information on toxicological effects

Product Information	No data available
Inhalation	May cause sensitization by inhalation. Inhalation of vapors in high concentration may cause irritation of respiratory system. May cause drowsiness or dizziness.
Eye contact	Irritating to eyes. Avoid contact with eyes.
Skin contact	May cause sensitization by skin contact. Irritating to skin.
Ingestion	No data available.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Methyl ethyl ketone 78-93-3	= 2483 mg/kg (Rat)	= 5000 mg/kg (Rabbit)	= 11700 ppm (Rat) 4 h
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	LD 50 > 10000 mg/kg (Rat)	LD 50 > 9400 mg/kg (Rabbit)	=1.5 mg/L (Rat) 4 h
4,4'-Methylenediphenyl diisocyanate 101-68-8	= 31600 mg/kg (Rat) = 9200 mg/kg (Rat)	LD 50 > 9400 mg/kg (Rabbit) OECD 402	= 1.5 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Symptoms	No information available.
Skin corrosion/irritation	Irritating to skin.
Serious eye damage/eye irritation	Irritating to eyes.
Irritation	No information available.
Corrosivity	No information available.
Sensitization	Isocyanates are known to be strong sensitizers. May cause sensitization by inhalation and

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Germ cell mutagenicity
Reproductive toxicity
Developmental Toxicity
Teratogenicity
STOT - single exposure
STOT - repeated exposure
Chronic Toxicity

skin contact.
No information available.
No information available.
No information available.
No information available.
May cause respiratory irritation. May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure. Repeated or prolonged exposure may cause central nervous system damage.
Repeated or prolonged contact causes sensitization, asthma and eczemas.
Eyes, Skin, liver, Respiratory system, Central nervous system.
No information available.
The table below indicates whether each agency has listed any ingredient as a carcinogen.

Target Organ Effects
Aspiration hazard
Carcinogenicity

Chemical name	ACGIH	IARC	NTP	OSHA
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	-	Group 3	-	-
4,4'-Methylenediphenyl diisocyanate 101-68-8	-	Group 3	-	-

*IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans*

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Methyl ethyl ketone 78-93-3	EC50=1972 mg/l (Pseudokirchneriella subcapitata)	LC50: 3130 - 3320mg/L (96h, Pimephales promelas)	EC50 = 3403 mg/L 30 min EC50 = 3426 mg/L 5 min	EC50 48 h > 308 mg/L (Daphnia magna)
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	ErC50 (72h) >1640 mg/L Algae (scenedesmus subspicatus) (OECD 201)	CL50 (96h) >1000 mg/L Fish (Danio rerio)		EC50 (24H) >1000 mg/L Daphnia magna
4,4'-Methylenediphenyl diisocyanate 101-68-8		>1000 mg/l (Danio rerio)		

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

Other adverse effects

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No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Disposal of Wastes It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations

Contaminated packaging Dispose of in accordance with federal, state and local regulations

Section 14: TRANSPORT INFORMATION

Note: The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments made in non-bulk packages (see regulatory definition)
The information shown here, may not always agree with the bill of lading shipping description for the material

DOT

UN/ID No	UN1193
Proper Shipping Name	Methyl ethyl ketone solution
Hazard Class	3
Packing Group	II
Reportable Quantity (RQ)	(Methyl ethyl ketone: RQ (kg)= 2270.00)
Special Provisions	IB2, T4, TP1
Description	UN1193, Methyl ethyl ketone solution, 3, II
Emergency Response Guide Number	127

IATA

UN Number	UN1193
Proper Shipping Name	Methyl ethyl ketone solution
Transport hazard class(es)	3
Packing Group	II
ERG Code	3L
Description	UN1193, Methyl ethyl ketone solution, 3, II

IMDG

UN Number	UN1193
UN proper shipping name	Methyl ethyl ketone solution
Transport hazard class(es)	3
Packing Group	II
EmS-No.	F-E, S-D
Description	UN1193, Methyl ethyl ketone solution, 3, II, (-2°C c.c.)

Section 15: REGULATORY INFORMATION

Global Inventories

TSCA	Listed
DSL	Listed

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL - Canadian Domestic Substances List

Listed - The components of this product are either listed or exempt from listing on inventory.

Not Listed - One or more components of this product are not listed on inventory.

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United States of America

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No.
Isocyanic acid, polymethylenepolyphenylene ester	9016-87-9
4,4'-Methylenediphenyl diisocyanate	101-68-8

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

Europe

Restrictions of Use of Hazardous Substances (RoHS) Directive 2011/65/EU

This product does not contain Lead (7439-92-1), Cadmium (7440-43-9), Mercury (7439-97-6), Hexavalent chromium (7440-47-3), Polybrominated biphenyls (PBB), and Polybrominated diphenyl ethers (PBDE) above the regulated limit mentioned in this regulation

SVHC: Substances of Very High Concern for Authorization:

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

No information available

Key Literature References and Sources for Data

No information available

Prepared By	Product Safety & Regulatory Affairs
Revision Date	18-Mar-2019
Revision note	SDS sections updated, 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 14, 15, 16.
Training Advice	Provide adequate information, instruction, and training for operator
Further information	No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet