



SAFETY DATA SHEET

This safety data sheet complies with the requirements of: REACH Regulation (EC) No 1907/2006, as retained in UK law by (SI 2019/758 as amended)

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name BOSTIK PREP G PLUS

Pure substance/mixture Mixture

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

Recommended use Adhesives

Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Company Name

Bostik Limited
Common Rd
ST16 3EH
Stafford UK
Tel: +44 (1785) 27 26 25
Fax: +44 (1785) 25 72 36

E-mail address SDS.box-EU@bostik.com

1.4. Emergency telephone number

United Kingdom Bostik: +44 (1785) 272650 (9am to 5pm Mon-Fri)
NHS: 111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP (SI 2020/1567 as amended)

Serious eye damage/eye irritation	Category 2 - (H319)
Respiratory sensitisation	Category 1 - (H334)
Specific target organ toxicity — single exposure	Category 3 - (H336)
Category 3 Narcotic effects	
Flammable liquids	Category 2 - (H225)

2.2. Label elements

Contains Methyl ethyl ketone, 4,4'-Methylenediphenyl diisocyanate, Isophorone diisocyanate, Dimethylbis[(1-oxoneodecyl)oxy]stannane

SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3



Signal word
Danger

Hazard statements

H319 - Causes serious eye irritation.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H336 - May cause drowsiness or dizziness.
H225 - Highly flammable liquid and vapour.

EU Specific Hazard Statements

EUH066 - Repeated exposure may cause skin dryness or cracking
EUH204 - Contains isocyanates. May produce an allergic reaction

Precautionary Statements - EU (§28, 1272/2008)

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor
P370 + P378 - In case of fire: Use dry chemical, CO₂, water spray or alcohol-resistant foam to extinguish

Special provisions concerning the labelling of certain mixtures

Reserved for industrial and professional use. As from 24 August 2023 adequate training is required before industrial or professional use.

Additional information

This product requires tactile warnings if supplied to the general public.

2.3. Other hazards

In use, may form flammable/explosive vapour-air mixture.

PBT & vPvB

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	EC No (EU Index No)	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	REACH registration number
Methyl ethyl ketone	(606-002-00-3) 201-159-0	78-93-3	60 - 70	Eye Irrit. 2 (H319) (EUH066) STOT SE 3 (H336) Flam. Liq. 2	-	01-2119457290-43-XXXX

SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

				(H225)		
4,4'-Methylenediphenyl diisocyanate	(615-005-00-9) (615-035-00-2) 202-966-0	101-68-8	0.1 - <1	Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Carc. 2 (H351) STOT SE 3 (H335) STOT RE 2 (H373)	STOT SE 3 :: C>=5% Skin Irrit. 2 :: C>=5% Eye Irrit. 2 :: C>=5% Resp. Sens. 1 :: C>=0.1%	01-2119457014-47-XXXX
Isophorone diisocyanate	(615-008-00-5) 223-861-6	4098-71-9	0.1 - <0.5	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Acute Tox. 1 (H330) Aquatic Chronic 2 (H411)	Resp. Sens. 1 :: C>=0.5% Skin Sens. 1 :: C>=0.5%	01-2119490408-31-XXXX
Dimethylbis[(1-oxoneodocyl)oxy]stannane	273-028-6	68928-76-7	0.01 - <0.1	Skin Irrit. 2 (H315) Skin Sens. 1A (H317) Acute Tox. 4 (H302) Aquatic Chronic 3 (H412)	-	01-2120770324-57-xxxx

Full text of H- and EUH-phrases: see section 16

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)

Notes

See section 16 for more information

Chemical name	Notes
4,4'-Methylenediphenyl diisocyanate - 101-68-8	C,2
Isophorone diisocyanate - 4098-71-9	2

SECTION 4: First aid measures

SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor.
Ingestion	May produce an allergic reaction. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Self-protection of the first aider	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

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

Symptoms	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/or wheezing. Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	May cause sensitisation in susceptible persons. Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO₂). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Product is or contains a sensitiser. May cause sensitisation by inhalation.

Hazardous combustion products Carbon oxides. Carbon monoxide. Carbon dioxide (CO₂).

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.
Other information	Ventilate the area. Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
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6.3. Methods and material for containment and cleaning up

Methods for containment	Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapour suppressing foam may be used to reduce vapours. Dyke far ahead of spill to collect run-off water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
Methods for cleaning up	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	Use personal protection equipment. Avoid breathing vapours or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment.
General hygiene considerations	Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible
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SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up. Keep out of the reach of children.

Recommended storage temperature

Keep at temperatures between 5 and 25 °C.

7.3. Specific end use(s)

Specific use(s)

Adhesives.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

Other information

Observe technical data sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

This product contains carbon black in a non-respirable form. Inhalation of carbon black is unlikely to occur from exposure to this product. This product contains substances which in their raw state are powder form, however in this product they are in a non-respirable form. Inhalation of powder/dust particles is unlikely to occur from exposure to this product.

Chemical name	European Union	United Kingdom
Methyl ethyl ketone 78-93-3	TWA: 200 ppm TWA: 600 mg/m ³ STEL: 300 ppm STEL: 900 mg/m ³	TWA: 200 ppm TWA: 600 mg/m ³ STEL: 300 ppm STEL: 899 mg/m ³ Sk*
Carbon black 1333-86-4	-	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³
4,4'-Methylenediphenyl diisocyanate 101-68-8	-	TWA: 0.02 mg/m ³ STEL: 0.07 mg/m ³ Sen+
Isophorone diisocyanate 4098-71-9	-	TWA: 0.02 mg/m ³ STEL: 0.07 mg/m ³ Sen+
Dimethylbis[(1-oxoneodecyl)oxy]stannane 68928-76-7	-	TWA: 0.1 mg/m ³ STEL: 0.2 mg/m ³ Sk*

Chemical name	European Union	Ireland	United Kingdom
Methyl ethyl ketone 78-93-3	-	70 µmol/L (urine - Butan-2-one post shift)	70 µmol/L urine
4,4'-Methylenediphenyl diisocyanate 101-68-8	-	1 µmol/mol Creatinine (urine - urinary Diamine post task)	1 mmol isocyanate-derived diamine/mol creatinine urine
Isophorone diisocyanate 4098-71-9	-	1 µmol/mol Creatinine (urine - urinary Diamine post task)	1 mmol isocyanate-derived diamine/mol creatinine urine

Derived No Effect Level (DNEL) No information available

Derived No Effect Level (DNEL)

Methyl ethyl ketone (78-93-3)

Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Long term Systemic health effects	Dermal	1161 mg/kg bw/d	
worker	Inhalation	600 mg/m ³	

SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

Long term Systemic health effects			
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4,4'-Methylenediphenyl diisocyanate (101-68-8)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Short term Systemic health effects	Dermal	50 mg/kg bw/d	
worker Short term Systemic health effects	Inhalation	0.1 mg/m ³	
worker Short term Local health effects	Dermal	28700 µg/cm ²	
worker Short term Local health effects	Inhalation	0.1 mg/m ³	
worker Long term Systemic health effects	Inhalation	0.05 mg/m ³	
worker Long term Local health effects	Inhalation	0.05 mg/m ³	

Isophorone diisocyanate (4098-71-9)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Short term Local health effects	Inhalation	0.0453 mg/m ³	
worker Long term Local health effects	Inhalation	0.0453 mg/m ³	

Derived No Effect Level (DNEL)			
Methyl ethyl ketone (78-93-3)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Dermal	412 mg/kg bw/d	
Consumer Long term Systemic health effects	Inhalation	106 mg/m ³	
Consumer Local health effects Systemic health effects	Oral	31 mg/kg bw/d	

4,4'-Methylenediphenyl diisocyanate (101-68-8)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Short term Systemic health effects	Dermal	25 mg/kg bw/d	
Consumer Short term Systemic health effects	Inhalation	0.05 mg/m ³	
Consumer	Oral	20 mg/kg bw/d	

SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

Short term Systemic health effects			
Consumer Short term Local health effects	Dermal	17200 µg/cm ²	
Consumer Short term Local health effects	Inhalation	0.05 mg/m ³	
Consumer Long term Systemic health effects	Inhalation	0.025 mg/m ³	
Consumer Long term Local health effects	Inhalation	0.025 mg/m ³	

Predicted No Effect Concentration (PNEC)

Predicted No Effect Concentration (PNEC)	
Methyl ethyl ketone (78-93-3)	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	55.8 mg/l
Marine water	55.8 mg/l
Freshwater sediment	287.74 mg/l
Marine sediment	287.7 mg/l
Soil	22.5 mg/l

4,4'-Methylenediphenyl diisocyanate (101-68-8)	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	1 mg/l
Marine water	0.1 mg/l
Soil	1 mg/kg dry weight
Sewage treatment plant	1 mg/l
Freshwater - intermittent	10 mg/l

Isophorone diisocyanate (4098-71-9)	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	60 µg/l
Marine water	6 µg/l
Freshwater - intermittent	40 µg/l
Freshwater sediment	218.9 mg/kg dry weight
Marine sediment	21.89 mg/kg dry weight
Soil	44.01 mg/kg dry weight
Microorganisms in sewage treatment	10 mg/l

8.2. Exposure controls

Engineering controls Ensure adequate ventilation, especially in confined areas. Vapours/aerosols must be exhausted directly at the point of origin.

Personal protective equipment

Eye/face protection Tight sealing safety goggles. Wear safety glasses with side shields (or goggles). Face protection shield.

Hand protection Wear protective gloves. The breakthrough time of the gloves depends on the material and the thickness as well as the temperature. Gloves must conform to standard EN 374

Skin and body protection Antistatic footwear. Wear fire/flame resistant/retardant clothing. Suitable protective clothing. Suitable protective clothing.

Respiratory protection In case of inadequate ventilation wear respiratory protection. In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Recommended filter type: Organic gases and vapours filter conforming to EN 14387.

SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Dispersion
Colour	Black
Odour	Solvent.
Odour threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	80 °C	
Flammability	Not applicable for liquids	
Flammability Limit in Air		None known
Upper flammability or explosive limits	11.5 % (V)	
Lower flammability or explosive limits	0.8 % (V)	
Flash point	-10 °C	
Autoignition temperature	400 °C	
Decomposition temperature		None known
pH	No data available	Not applicable. Insoluble in water.
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	
Water solubility	Insoluble in water.	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapour pressure	150	hPa
Relative density	0.94	
Bulk Density	No data available	
Liquid Density	No data available	
Relative vapour density	2.5	
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

Solid content (%)	No information available	
VOC content		No data available

9.2.1. Information with regards to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No information available.
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10.2. Chemical stability

Stability	Stable under normal conditions.
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SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

Explosion data

Sensitivity to mechanical impact None.
Sensitivity to static discharge Yes.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Hazardous polymerisation Hazardous polymerisation may occur.

10.4. Conditions to avoid

Conditions to avoid Heat, flames and sparks.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

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 vapours.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. May cause sensitisation in susceptible persons. (based on components). May cause irritation of respiratory tract. May cause drowsiness or dizziness.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.

Skin contact Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May cause irritation. Prolonged contact may cause redness and irritation.

Ingestion Specific test data for the substance or mixture is not available. May cause additional affects as listed under "Inhalation". Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing. May cause redness and tearing of the eyes. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

ATEmix (oral) >5000 mg/kg
ATEmix (dermal) >5000 mg/kg
ATEmix (inhalation-gas) >20000 ppm
ATEmix (inhalation-dust/mist) 6.33 mg/l
ATEmix (inhalation-vapour) >20 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Methyl ethyl ketone	=2483 mg/kg (Rattus)	= 5000 mg/kg (Oryctolagus cuniculus)	=11700 ppm (Rattus) 4 h
4,4'-Methylenediphenyl diisocyanate	=31600 mg/kg (Rattus) = 9200 mg/kg (Rattus)	LD 50 > 9400 mg/kg (Oryctolagus cuniculus) OECD 402	1.5 mg/L (Rattus) 4 h
Isophorone diisocyanate	=4814 mg/kg (Rattus)	LD50 > 2000 mg/kg	=0.135 mg/L (Rattus) 4 h
Dimethylbis[(1-oxoneodecyl)oxy]stannane	LD50 =892 mg/Kg (Rattus) (OECD 401)	LD50 >2000 mg/Kg (rattus)	-

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

Skin corrosion/irritation May cause skin irritation.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye irritation.

Methyl ethyl ketone (78-93-3)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	eye			irritant

4,4'-Methylenediphenyl diisocyanate (101-68-8)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	Eye	0.1 mL	24 hours	Non-irritant

Respiratory or skin sensitisation May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Methyl ethyl ketone (78-93-3)

Method	Species	Exposure route	Results
OECD Test No. 406: Skin Sensitisation	Guinea pig	Dermal	No sensitisation responses were observed

4,4'-Methylenediphenyl diisocyanate (101-68-8)

Method	Species	Exposure route	Results
OECD GD 39	Rat	Inhalation	Sensitizing

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component Information

SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

4,4'-Methylenediphenyl diisocyanate (101-68-8)

Method	Species	Results
OECD Test No. 453: Combined Chronic Toxicity/Carcinogenicity Studies	Rat	Limited evidence of a carcinogenic effect

Chemical name	European Union
4,4'-Methylenediphenyl diisocyanate	Carc. 2

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT - single exposure May cause drowsiness or dizziness.

STOT - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea	M-Factor	M-Factor (long-term)
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)		
4,4'-Methylenediphenyl diisocyanate 101-68-8	ErC50 (72h) >1640 mg/L Algae (scenedesmus subspicatus) (OECD 201)	>1000 mg/l (Danio rerio)	-	EC50 (24H) >1000 mg/L Daphnia magna		
Isophorone diisocyanate 4098-71-9	EC50: =118.7mg/L (72h, Desmodesmus subspicatus)	LC50: =1.8mg/L (48h, Leuciscus idus)	-	EC50: =83.7mg/L (24h, Daphnia magna)		
Dimethylbis[(1-oxoneod ecyl)oxy]stannane 68928-76-7	-	-	-	EC50 =39 mg/L (Daphnia magna) (OECD 201)		

12.2. Persistence and degradability

SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supercedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

Persistence and degradability No information available.

Methyl ethyl ketone (78-93-3)

Method	Exposure time	Value	Results
OECD Test No. 301D: Ready Biodegradability: Closed Bottle Test (TG 301 D)	28 days	biodegradation	98 % Readily biodegradable

4,4'-Methylenediphenyl diisocyanate (101-68-8)

Method	Exposure time	Value	Results
OECD Test No. 302C: Inherent Biodegradability: Modified MITI Test (II)	28 days	0% biodegradation	Not readily biodegradable

Isophorone diisocyanate (4098-71-9)

Method	Exposure time	Value	Results
EU C.4-D	28 days	0%	Not readily biodegradable

Dimethylbis[(1-oxoneodecyl)oxy]stannane (68928-76-7)

Method	Exposure time	Value	Results
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test (TG 301 B)	28 days	0%	Not readily biodegradable
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)	28 days	3%	Not readily biodegradable

12.3. Bioaccumulative potential

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Methyl ethyl ketone	0.3
4,4'-Methylenediphenyl diisocyanate	4.51

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Methyl ethyl ketone	The substance is not PBT / vPvB
4,4'-Methylenediphenyl diisocyanate	The substance is not PBT / vPvB
Isophorone diisocyanate	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.
European Waste Catalogue	08 04 09* waste adhesives and sealants containing organic solvents or other dangerous substances 15 01 10*: Packaging containing residues of or contaminated by dangerous substances
Other information	Waste codes should be assigned by the user based on the application for which the product was used.

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.

Land transport (ADR/RID)

14.1 UN number or ID number	UN1139
14.2 UN proper shipping name	Coating solution
14.3 Transport hazard class(es)	3
Labels	3
14.4 Packing group	II
Description	UN1139, Coating solution, 3, II, (D/E)
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	640C
Classification code	F1
Tunnel restriction code	(D/E)
Limited quantity (LQ)	5 L
ADR Hazard Id (Kemmler Number)	33

IMDG

14.1 UN number or ID number	UN1139
14.2 UN proper shipping name	Coating solution
14.3 Transport hazard class(es)	3
14.4 Packing group	II
Description	UN1139, Coating solution, 3, II, (-10°C c.c.)
14.5 Marine pollutant	NP
14.6 Special precautions for user	
Special Provisions	None
Limited Quantity (LQ)	5 L
EmS-No.	F-E, S-E
14.7 Maritime transport in bulk according to IMO instruments	
Transport in bulk according to Annex II of MARPOL and the IBC Code	Not applicable

Air transport (ICAO-TI / IATA-DGR)

14.1 UN number or ID number	UN1139
14.2 UN proper shipping name	Coating solution
14.3 Transport hazard class(es)	3
14.4 Packing group	II
Description	UN1139, Coating solution, 3, II

SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

14.5 Environmental hazards Not applicable

14.6 Special precautions for user

Special Provisions A3
Limited quantity (LQ) 1 L
ERG Code 3L

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Check whether measures in accordance with Directive 94/33/EC for the protection of young people at work must be taken.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work

Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006)

SVHC: Substances of Very High Concern for Authorisation:

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)

EU-REACH (1907/2006) - Annex XVII - Substances subject to Restriction

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

Chemical name	CAS No	Restricted substance per REACH Annex XVII
Diisocyanates	--	74
4,4'-Methylenediphenyl diisocyanate	101-68-8	56[a]. 75. 74.
Isophorone diisocyanate	4098-71-9	75. 74.

56 . If product supplied to the general public with substance $\geq 0.1\%$, then gloves must be provided with the product. **74** If product supplied to the industrial or professional users with total monomeric diisocyanates $\geq 0.1\%$, then its packaging must mention "As from 24 August 2023 adequate training is required before industrial or professional use".

Substance subject to authorisation per REACH Annex XIV

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV)

Dangerous substance category per Seveso Directive (2012/18/EU)

P5a - FLAMMABLE LIQUIDS

P5b - FLAMMABLE LIQUIDS

P5c - FLAMMABLE LIQUIDS

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

Persistent Organic Pollutants

Not applicable

SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

National regulations

15.2. Chemical safety assessment

Chemical Safety Assessments have been carried out by the Reach registrants for substances registered at >10 tpa. No Chemical Safety Assessment has been carried out for this mixture

SECTION 16: Other information

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

Full text of H-Statements referred to under section 3

EUH066 - Repeated exposure may cause skin dryness or cracking
H225 - Highly flammable liquid and vapour
H302 - Harmful if swallowed
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H330 - Fatal if inhaled
H332 - Harmful if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects
H412 - Harmful to aquatic life with long lasting effects

Notes relating to the identification, classification and labelling of substances

Note C: Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers

Notes relating to the classification and labelling of mixtures

Note 2 : The concentration of isocyanate stated is the percentage by weight of the free monomer calculated with reference to the total weight of the mixture

Legend

TWA	TWA (time-weighted average)
STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value
*	Skin designation
SVHC	Substance(s) of Very High Concern
PBT	Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
vPvB	Very Persistent and very Bioaccumulative (vPvB) Chemicals
STOT RE	Specific target organ toxicity - Repeated exposure
STOT SE	Specific target organ toxicity - Single exposure
EWC	European Waste Catalogue
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG	International Maritime Dangerous Goods (IMDG)
IATA	International Air Transport Association (IATA)
RID	Regulations concerning the International Transport of Dangerous Goods by Rail

Key literature references and sources for data

No information available

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Indication of changes

Revision note SDS sections updated, 2, 3, 8, 9, 11, 12, 15.
Training Advice Provide adequate information, instruction, and training for operator AS FROM 24

SAFETY DATA SHEET

BOSTIK PREP G PLUS
Supersedes Date: 12-Apr-2022

Revision date 25-May-2023
Revision Number 3

AUGUST 2023 ADEQUATE TRAINING IS REQUIRED BEFORE INDUSTRIAL OR PROFESSIONAL USE For further information, please contact:

<https://www.safeusediisocyanates.eu/>

Further information

No information available

This material safety data sheet complies with requirements of UK REACH Regulations (SI 2019/758 as amended)

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