



## MATERIAL SAFETY DATA SHEET

### DPG

#### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

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Product name: DPG  
Product Label Name: 1,3-diphenylguanidine  
Intended Use: Used as rubber accelerator.  
Index Number: 612-149-00-4  
Supplier: Castle Chemicals Ltd, Peak House  
6 Oxford Road, Altrincham, Cheshire WA14 2DY  
Tel: +44 161 608 8800 Fax: +44 161 608 1910  
Email: [Info@castlechemicals.com](mailto:Info@castlechemicals.com)

#### 2. HAZARD IDENTIFICATION

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The substance is classified as following according to 67/548/EEC and REGULATION (EC) No 1272/2008:

REGULATION (EC) No 1272/2008

Hazard classes/Hazard categories	Hazard statement
Repr. 2	H361f
Acute Tox. 4	H302
Eye Irrit. 2	H319
STOT SE 3	H335
Skin Irrit. 2	H315
Aquatic Chronic 2	H411

67/548/EEC

Hazards characteristics	R-Phrases
Repr. Cat. 3	R62
Xn	R22
Xi	R36/37/38
N	R51/53

For full text of R- phrases: see section 16.

Physicochemical effects: Not applicable.

Adverse human health effects: Suspected of damaging fertility.  
Harmful if swallowed.  
Causes serious eye irritation.  
May cause respiratory irritation.  
Causes skin irritation.

Adverse environmental effects Toxic to aquatic life with long lasting effects.

Hazard Pictograms



Signal Word(S):

Warning

Hazard Statement

H361f Suspected of damaging fertility.

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation; or H336: May cause drowsiness or dizziness.

H315 Causes skin irritation.

Precautionary Statement

H411 Toxic to aquatic life with long lasting effects.

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P281: Use personal protective equipment as required.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 Rinse mouth.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313: IF exposed or concerned: Get medical advice/attention.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P332 + P313 If skin irritation occurs: Get medical advice/attention.

P362 Take off contaminated clothing and wash before reuse.

P391 Collect spillage.

P403 + P233 Store in a well-ventilated place.

P405 Store locked up.

P501 Dispose of contents/container to local regulations.

Other hazards

Not available (PBT,vPvB, Substance is an endocrine disruptor etc.)

### 3. COMPOSITION INFORMATION ON INGREDIENTS

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Substance/Mixture	Substance			
Ingredient(s)				
Chemical Name	Registration No.	CAS No.	EC No.	Concentration
1,3-diphenylguanidine	N/A	102-06-7	203-002-1	≥98%

### 4. FIRST AID MEASURES

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First aid measures	In all cases of doubt, or when symptoms persist, seek medical attention.
Inhalation	Remove from exposure site to fresh air and keep at rest. Obtain medical advice.
Skin Contact	Remove any contaminated clothing or shoes. Wash affected areas thoroughly with soap and water for at least 15 minutes. If irritation persists or any sign of tissue damage is apparent, seek medical attention.
Eyes Contact	Remove contact lenses. Hold eyelids apart. Flush immediately with water for at least 15 minutes. Seek medical attention.
Ingestion	Rinse mouth. Give water to drink. Induce vomiting. Never induce vomiting in unconscious or confused persons. Always seek medical advice.
Symptoms/Effects, Both acute and delayed	Symptoms can include redness, swelling, pain and tearing. Inhalation of dust may cause respiratory tract irritation. May cause allergic skin reaction.

Immediate medical attention and special treatment needed If skin irritation or rash occurs

### 5. FIREFIGHTING MEASURES

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Extinguishing media	Suitable extinguishing media: Carbon dioxide, appropriate foam or dry chemical, water spray, water mist.
Unsuitable extinguishing media	Water jet.
Special hazards arising from the substance or mixture	Emits toxic fumes under fire conditions: Carbon monoxide (CO), nitrous gases (NOx).
Advice for fire-fighters	Firefighters must wear fire resistant protective equipment. Wear self contained breathing apparatus and protective gloves.

## 6. ACCIDENTAL RELEASE MEASURES

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Non-emergency personnel	Remove ignition sources. Provide adequate ventilation. Avoid inhalation of vapour or dust. Avoid skin and eye contact. Wear protective gloves/protective clothing/eye protection/face protection.
For emergency responders	Wear an appropriate NIOSH/MSHA approved respirator if mist, vapor or dust is generated.
Environmental Precautions	Avoid disposing into drainage/sewer system or directly into the aquatic environment. keeping away from drains, surface-and ground-water and soil.
Methods for Containment and Cleaning up	Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal. Clean up affected area.
Reference to other sections	See Section 7 for information on safe handling. See section 8 for information on personal protection equipment. See Section 13 for information on disposal.
Additional information	Wet clean or vacuum up solids. Don't use a brush or compressed air for cleaning surfaces or clothing. Clear spills immediately.

## 7. HANDLING AND STORAGE

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Protective measures	Do not breathe dusts/vapor. Handle in well ventilated areas. Eliminate all sources of ignition, and do not generate flames or sparks. Take precautionary measures against static discharges.
Advice on general occupational hygiene	Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.
Conditions for safe storage, including any incompatibilities	Requirements for storage rooms and vessels. Keep in original packaging, tightly closed. Advice on storage assembly. Do not store together with foodstuffs. Do not store together with: Acids and Bases.
Further information on storage conditions	Keep container tightly closed and dry in a cool, well-ventilated place.
Specific end use(s)	Not applicable.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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Occupational exposure limits	WEL-TWA: 4 mg/m <sup>3</sup> (respirable dust) OES-TWA: 10.0 mg/m <sup>3</sup> (inhalable dust)
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Appropriate engineering controls

OES-TWA: 4.0 mg/m<sup>3</sup> (respirable dust)  
DNEL/DMEL and PNEC-Values Not available.

Individual protection measures, such as personal protective equipment

Avoid dust generation. Ensure good ventilation and local exhaustion of the working area.

Eye/face protection,  
Hand protection  
Body protection

Wear appropriate goggles to prevent eye exposure.  
Wear appropriate gloves to prevent skin exposure.  
Wear suitable protective clothing to prevent skin exposure.

Respiratory protection

Avoid breathing dust. In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards  
Environmental exposure controls

Wear suitable protective clothing to prevent heat.

Avoid discharge into the environment. This material and its container must be disposed of as hazardous waste. According to local regulations, Federal and official regulations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance

Dedusted powder

Colour

White

Odour

Characteristic

Odour threshold

Not available

pH

10.2 (10 g/l, Aqueous dispersion)

Melting point/range (°C)

144 °C

Boiling point/range (°C)

> 170 °C (decomposition temperature)

Flash point (°C)

~ 150 °C (closed cup)

Evaporation rate

Not applicable

Flammability (solid, gas)

Not flammable

Ignition temperature (°C)

650 °C

Upper/lower

flammability/explosive limits

Not determined

Vapour pressure (20°C)

Negligible at room temperatures

Vapour density

Not applicable

Relative Density (25°C)

1180 kg/m<sup>3</sup>

Bulk density (kg/m<sup>3</sup>)

1200 kg/m<sup>3</sup> (25°C)

Water solubility (g/l) at 20°C

0.860 kg/m<sup>3</sup> (25 °C, pH 7)

1.470 kg/m<sup>3</sup> (25 °C, pH 9)

n-Octanol/Water (log Po/w)

Log Pow: 1.69

Auto-ignition temperature

Not available

Decomposition temperature

Not available

Viscosity, dynamic (mPa s)

Not determined

Explosive properties

Not applicable

Oxidising properties

Not applicable

Other information

Fat solubility(solvent– oil to be specified) etc:

Soluble in most organic solvents

Surface tension:

Not available

Dissociation constant in water( pKa):

Not available

Oxidation-reduction Potential:

Not available

## 10. STABILITY AND REACTIVITY

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Reactivity	The substance is stable under normal storage and handling conditions.
Chemical stability	Under normal conditions, the product is stable. No hazardous reaction when handled and stored according to provisions. Hazardous reactions are not known.
Possibility of hazardous reactions	Under normal conditions, not hazardous reactions will occur.
Conditions to avoid	Heat, sources of heat, naked flames, sparks. Decomposition starts at 160 °C.
Incompatible materials	Avoid contact with Strong oxidizing agents.
Hazardous decomposition products	Thermal decomposition products: carbon monoxide (CO), nitrous gases (NO <sub>x</sub> ), tetraphenylmelamine, triphenylmelamine, triphenylcarbimide.

## 11. TOXICOLOGICAL INFORMATION

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### Toxicokinetics, metabolism and distribution

Non-human toxicological data	Not available
Method	Not available
Dosis	Not available
Routes of administration	Not available
Results	Not available
Absorption	Not available
Distribution	Not available
Metabolism	Not available
Excretion	Not available

### Information on toxicological effects

Acute toxicity	LD50( Oral, Rat)	350 mg/kg
	LD50(Dermal Rabbit)	>2000 mg/kg
	LD50(Inhalation, Rat)	Not available
Skin corrosion/Irritation	Irritating to skin.	
Serious eye damage/irritation	Irritating to eyes.	
Respiratory or skin sensitization	May cause respiratory irritation	
Germ cell mutagenicity	Not classified	
Carcinogenicity	Not classified	
reproductive toxicity	Not classified	
STOT- single exposure	Not classified	

STOT-repeated exposure	Not classified
Aspiration hazard	Not classified

## 12. ECOLOGICAL INFORMATION

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### Toxicity

Acute toxicity	Time	Species	Method	Evaluation	Remarks
LC50 9.6 mg/l	96h	Fish	OECD 203	N/A	N/A
EC50 17.0 mg/l	48h	Daphnia	OECD 202	N/A	N/A
EC50 1.7 mg/l	96h	Algae	OECD 201	N/A	N/A

Persistence and degradability > 90% in 2 weeks  
 Bioaccumulative potential Bio Concentration Factor (BCF): 33.78 (calculated, EPIWIN)

Mobility in soil Not available.

Results of PBT&vPvB assessment Not available.

Other adverse effects Not applicable.

## 13. DISPOSAL CONSIDERATIONS

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Waste treatment methods Avoid discharge into the environment. This material and its container must be disposed of as hazardous waste. According to local regulations, Federal and official regulations.

Product / Packaging disposal If empty container retains product residues, all label precautions must be observed. Return for reuse or dispose according to national or local regulations. .

## 14. TRANSPORT INFORMATION

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### Land transport (ADR/RID)

UN-Number	UN 3077
UN Proper shipping name	Environmentally hazardous substance, solid, n.o.s. (DPG)
Transport hazard Class	9
Packaging group	III
Environmental hazards	Environmentally hazardous substances
Special precautions for user	See section 2.2
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	IBC 08

### Sea transport (IMDG)

UN-Number	UN 3077
UN Proper shipping name	Environmentally hazardous substance, solid, n.o.s.

	(DPG)
Transport hazard Class	9
Packaging group	III
Environmental hazards	Environmentally hazardous substances
Special precautions for user	See section 2.2
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	IBC 08
Air transport (ICAO/IATA)	
UN-Number	UN 3077
UN Proper shipping name	Environmentally hazardous substance, solid, n.o.s. (DPG)
Transport hazard Class	9
Packaging group	III
Environmental hazards	Environmentally hazardous substances
Special precautions for user	See section 2.2
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	IBC 08

## 15. REGULATORY INFORMATION

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

Relevant information regarding authorization	Not applicable.
Relevant information regarding restriction	Not applicable.
Other EU regulations	Employment restrictions concerning young person must be observed. For use only by technically qualified individuals.
Other National regulations	Not applicable

Chemical Safety Assessment has been carried out? NO

## 16. OTHER INFORMATION

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Relevant R- phrases (number and full text)	R62 Risk of impaired fertility. R22 Harmful if swallowed. R36/37/38 Irritating to eyes, respiratory system and skin. R51-53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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Training instructions

Not applicable.

Further information

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees.

This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

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