

## SAFETY DATA SHEET

### BENZOTRIAZOLE

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

##### 1.1. Product identifier

Product name	BENZOTRIAZOLE
Product number	20640
Synonyms; trade names	1,2,3-BENZOTRIAZOLE, 1H-BENZOTRIAZOLE, AZIMIDOBENZENE, ADDITIN RC 8220, IRGAMET BTZ
REACH registration number	01-2119979079-20
CAS number	95-14-7
EC number	202-394-1

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

Identified uses	Corrosion inhibitor. Antioxidant
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##### 1.3. Details of the supplier of the safety data sheet

Supplier	Darrant Distribution Unit 1 Witham Point Business Park Wavell Drive Lincoln LN3 4PL +44 1522 521864 sales@darrantchemicals.com
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##### 1.4. Emergency telephone number

Emergency telephone	01522 521864
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#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Classification (EC/1272/2008)

Physical hazards	Not Classified
Health hazards	Acute Tox. 4 - H302 Eye Irrit. 2 - H319
Environmental hazards	Aquatic Chronic 2 - H411

Classification (67/548/EEC or 1999/45/EC) Xn;R22. Xi;R36. R52/53.

##### 2.2. Label elements

EC number	202-394-1
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# BENZOTRIAZOLE

## Pictogram



## Signal word

Warning

## Hazard statements

H302 Harmful if swallowed.  
 H319 Causes serious eye irritation.  
 H411 Toxic to aquatic life with long lasting effects.

## Precautionary statements

P270 Do not eat, drink or smoke when using this product.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P330 Rinse mouth.  
 P337+P313 If eye irritation persists: Get medical advice/ attention.  
 P501 Dispose of contents/ container in accordance with national regulations.  
 P264 Wash contaminated skin thoroughly after handling.

## 2.3. Other hazards

Dust may form explosive mixture with air. This substance is not classified as PBT or vPvB according to current EU criteria.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Product name	BENZOTRIAZOLE
REACH registration number	01-2119979079-20
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EC number	202-394-1

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Inhalation	Move affected person to fresh air at once. Get medical attention.
Ingestion	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

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

Ingestion	Harmful if swallowed.
Eye contact	Causes serious eye irritation.

### 4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.
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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media** Powder. Foam.

**Unsuitable extinguishing media** Carbon dioxide (CO<sub>2</sub>).

### 5.2. Special hazards arising from the substance or mixture

**Specific hazards** Toxic to aquatic life with long lasting effects. Avoid the spillage or runoff entering drains, sewers or watercourses. Dust may form explosive mixture with air.

**Hazardous combustion products** Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Nitrous gases (NO<sub>x</sub>).

### 5.3. Advice for firefighters

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions** Wear protective clothing as described in Section 8 of this safety data sheet. Avoid generation and spreading of dust. Avoid inhalation of dust and contact with skin and eyes.

### 6.2. Environmental precautions

**Environmental precautions** Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

### 6.3. Methods and material for containment and cleaning up

**Methods for cleaning up** Remove spillage with vacuum cleaner. If not possible, collect spillage with shovel, broom or the like. Flush contaminated area with plenty of water. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

### 6.4. Reference to other sections

**Reference to other sections** Wear protective clothing as described in Section 8 of this safety data sheet.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Usage precautions** Avoid inhalation of dust and contact with skin and eyes. Provide adequate ventilation. Avoid handling which leads to dust formation. Take precautionary measures against static discharges.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage precautions** Store in tightly-closed, original container in a dry, cool and well-ventilated place.

### 7.3. Specific end use(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2.

## SECTION 8: Exposure Controls/personal protection

### 8.1. Control parameters

**Ingredient comments** No exposure limits known for ingredient(s).

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<b>DNEL</b>	Consumer - Oral; Long term systemic effects: 0.54 mg/kg
	Consumer - Dermal; Long term systemic effects: 0.54 mg/kg
	Workers - Dermal; Long term systemic effects: 1.08 mg/kg
	Consumer - Inhalation; Long term systemic effects: 9.55 mg/m <sup>3</sup>
	Workers - Inhalation; Long term systemic effects: 19 mg/m <sup>3</sup>

<b>PNEC</b>	- Fresh water; 0.0194 mg/l
	- Intermittent release; 0.158 mg/l
	- Marine water; 0.0194 mg/l
	- Sediment (Freshwater); 0.00375 mg/l
	- Sediment (Marinewater); 0.00375 mg/l
	- Soil; 0.003 mg/l
- STP; 39.4 mg/l	

### 8.2. Exposure controls

#### Protective equipment



#### Appropriate engineering controls

Provide adequate ventilation.

#### Eye/face protection

Dust-resistant, chemical splash goggles.

#### Hand protection

It is recommended that chemical-resistant, impervious gloves are worn. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Nitrile rubber. Chloroprene rubber. Polyvinyl chloride (PVC). EN 374

#### Other skin and body protection

Wear suitable protective clothing as protection against splashing or contamination.

#### Hygiene measures

Wash hands at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.

#### Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. High-efficiency particulate filter. Particulate filter, type P2. EN 136/140/145/143/149

## SECTION 9: Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Crystalline solid.
<b>Colour</b>	White.
<b>Odour</b>	Characteristic.
<b>pH</b>	pH (diluted solution): 5 - 6 @ 0.5%
<b>Melting point</b>	91 - 99°C
<b>Initial boiling point and range</b>	204°C @
<b>Flash point</b>	171°C
<b>Evaporation rate</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	Lower flammable/explosive limit: 2.4
<b>Vapour pressure</b>	0.00001 mbar @ °C

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<b>Relative density</b>	1.36 @ 20°C
<b>Bulk density</b>	500 kg/m <sup>3</sup>
<b>Solubility(ies)</b>	Soluble in water. Soluble in the following materials: acetone
<b>Partition coefficient</b>	: ~ 1.34
<b>Auto-ignition temperature</b>	400°C
<b>Decomposition Temperature</b>	> 160°C
<b>Viscosity</b>	Not applicable.
<b>Explosive properties</b>	Not considered to be explosive.
<b>Oxidising properties</b>	There are no chemical groups present in the product that are associated with oxidising properties.

### 9.2. Other information

**Other information** Not determined.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity** There are no known reactivity hazards associated with this product.

### 10.2. Chemical stability

**Stability** Stable at normal ambient temperatures and when used as recommended.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** Not determined.

### 10.4. Conditions to avoid

**Conditions to avoid** Avoid heat, flames and other sources of ignition.

### 10.5. Incompatible materials

**Materials to avoid** Strong oxidising agents. Strong acids. Strong alkalis.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Oxides of the following substances: Carbon. Nitrogen.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity - oral

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 560.0

**Species** Rat

**ATE oral (mg/kg)** 560.0

#### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> > 2000 mg/kg, Dermal, Rabbit

#### Skin corrosion/irritation

**Skin corrosion/irritation** Not irritating.

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### Serious eye damage/irritation

**Serious eye damage/irritation** Irritating.

### Skin sensitisation

**Skin sensitisation** Based on available data the classification criteria are not met.

### Germ cell mutagenicity

**Genotoxicity - in vitro** Data lacking.

### Carcinogenicity

**Carcinogenicity** There is no evidence that the product can cause cancer.

### Reproductive toxicity

**Reproductive toxicity - fertility** Data lacking.

### Specific target organ toxicity - single exposure

**STOT - single exposure** Data lacking.

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Data lacking.

### Aspiration hazard

**Aspiration hazard** Not anticipated to present an aspiration hazard, based on chemical structure.

### **Inhalation**

Dust in high concentrations may irritate the respiratory system.

### **Ingestion**

Harmful if swallowed.

### **Skin contact**

Skin irritation should not occur when used as recommended.

### **Eye contact**

Irritating to eyes.

## SECTION 12: Ecological Information

**Ecotoxicity** Toxic to aquatic life with long lasting effects.

### 12.1. Toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 180 mg/l, Brachydanio rerio (Zebra Fish)

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: 15.8 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** IC<sub>50</sub>, 72 hours: 29 mg/l, Pseudokirchneriella subcapitata

**Acute toxicity - microorganisms** EC<sub>50</sub>, 3 hours: 1060 mg/l, Activated sludge

### 12.2. Persistence and degradability

**Persistence and degradability** The product is not expected to be biodegradable.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential** The product is not bioaccumulating. BCF: < 2000,

**Partition coefficient** : ~ 1.34

### 12.4. Mobility in soil

**Mobility** The product is soluble in water.

### 12.5. Results of PBT and vPvB assessment

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**Results of PBT and vPvB assessment** This product does not contain any substances classified as PBT or vPvB.

### 12.6. Other adverse effects

**Other adverse effects** Not determined.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**General information** Waste is classified as hazardous waste. Do not puncture or incinerate, even when empty.

**Disposal methods** Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

## SECTION 14: Transport information

### 14.1. UN number

**UN No. (ADR/RID)** 3077

**UN No. (IMDG)** 3077

**UN No. (ICAO)** 3077

**UN No. (ADN)** 3077

### 14.2. UN proper shipping name

**Proper shipping name (ADR/RID)** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (BENZOTRIAZOLE)

**Proper shipping name (IMDG)** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (BENZOTRIAZOLE)

**Proper shipping name (ICAO)** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (BENZOTRIAZOLE)

**Proper shipping name (ADN)** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (BENZOTRIAZOLE)

### 14.3. Transport hazard class(es)

**ADR/RID class** 9

**ADR/RID classification code** M7

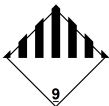
**ADR/RID label** 9

**IMDG class** 9

**ICAO class/division** 9

**ADN class** 9

### Transport labels



### 14.4. Packing group

**ADR/RID packing group** III

**IMDG packing group** III

**ADN packing group** III

**ICAO packing group** III

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## 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



## 14.6. Special precautions for user

EmS	F-A, S-F
ADR transport category	3
Emergency Action Code	2Z
Hazard Identification Number (ADR/RID)	90
Tunnel restriction code	(E)

## 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

## SECTION 15: Regulatory information

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

EU legislation	This product may impact SEVESO storage regulations. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
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### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	27/06/2016
Revision	05
Supersedes date	17/02/2016
SDS number	20640
Version number	1.001
SDS status	Approved.
Signature	Lisa Bland
Risk phrases in full	R22 Harmful if swallowed. R36 Irritating to eyes. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.



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### **Hazard statements in full**

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

H411 Toxic to aquatic life with long lasting effects.