

# Safety Data Sheet

## Gardobond Z 3190 E

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### 1. Identification

#### Product identifier used on the label

## Gardobond Z 3190 E

#### Recommended use of the chemical and restriction on use

Recommended use\*: Phosphating solution for metal surfaces.; Restricted to professional users.  
Unsuitable for use: Uses other than recommended

\* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

#### Details of the supplier of the safety data sheet

Company:  
BASF CORPORATION  
100 Park Avenue  
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

#### Emergency telephone number

CHEMTREC: 1-800-424-9300  
BASF HOTLINE: 1-800-832-HELP (4357)

#### Other means of identification

Chemical family: inorganic, aqueous solution

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### 2. Hazards Identification

**According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200**

#### Classification of the product

Skin Corr./Irrit.	1	Skin corrosion/irritation
Eye Dam./Irrit.	1	Serious eye damage/eye irritation
Skin Sens.	1	Skin sensitization
Resp. Sens.	1	Respiratory sensitization
Carc.	1 (by inhalation)	Carcinogenicity
Repr.	1 (unborn child)	Reproductive toxicity
Aquatic Acute	1	Hazardous to the aquatic environment - acute
Aquatic Chronic	2	Hazardous to the aquatic environment - chronic

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Met. Corr.	1	Corrosive to metals
Acute Tox.	4 (oral)	Acute toxicity

### Label elements

Pictogram:



Signal Word:

Danger

Hazard Statement:

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H350	May cause cancer by inhalation.
H360	May damage the unborn child.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P201	Obtain special instructions before use.
P280	Wear protective gloves, protective clothing and eye protection or face protection.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.
P270	Do not eat, drink or smoke when using this product.
P260	Do not breathe dust or mist.
P202	Do not handle until all safety precautions have been read and understood.
P234	Keep only in original packaging.
P264	Wash contaminated body parts thoroughly after handling.
P284	In case of inadequate ventilation wear respiratory protection.

Precautionary Statements (Response):

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P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P391	Collect spillage.
P308 + P313	IF exposed or concerned: Get medical attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P303 + P361 + P353	IF ON SKIN (or hair): Remove or Take off immediately all contaminated clothing. Rinse skin with water or shower.
P333 + P313	If skin irritation or rash occurs: Get medical attention.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P310	Immediately call a POISON CENTER or physician.
P330	Rinse mouth
P362 + P364	Take off contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.

#### Precautionary Statements (Storage):

P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.

#### Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.
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### Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

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## 3. Composition / Information on Ingredients

### According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Nitric acid, zinc salt

CAS Number: 7779-88-6  
Content (W/W): >= 10.0 - < 15.0%  
Synonym: Zinc nitrate

Nitric acid, nickel(2+) salt

CAS Number: 13138-45-9  
Content (W/W): >= 0.3 - < 1.0%  
Synonym: Nickel dinitrate

Phosphoric acid, zinc salt (2:1)

CAS Number: 13598-37-3  
Content (W/W): >= 25.0 - < 50.0%  
Synonym: No data available.

Orthophosphoric acid

CAS Number: 7664-38-2  
Content (W/W): >= 10.0 - < 15.0%  
Synonym: No data available.

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### 4. First-Aid Measures

#### Description of first aid measures

##### General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Remove affected person from danger area. Keep warm, calm and covered up. Immediately remove contaminated clothing. Never give anything by mouth to an unconscious person. In case of intoxication, call a poison control center or physician for treatment advice, taking the packaging or the label of the product. Symptoms of poisoning may occur even after several hours, continue medical observation for at least 48 hours after the accident.

##### If inhaled:

Immediate medical attention required. Remove the affected individual into fresh air and keep the person calm. If breathing is irregular or stopped, administer artificial respiration.

##### If on skin:

If symptoms persist, seek medical advice. Remove contaminated clothing. Wash skin with soap and water, rinse abundantly. Do NOT use solvents or thinners.

##### If in eyes:

Remove contact lenses, if present. Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist. Immediate medical attention required.

##### If swallowed:

Summon medical aid without delay. Do not induce vomiting due to aspiration hazard. Rinse mouth immediately with water. Keep at rest.

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

Symptoms: Symptoms can appear later., Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

*Information on: Nitric acid, zinc salt*

*Symptoms: Overexposure may cause:., corneal injury, skin corrosion, severe pain, coughing, respiratory disorders, dyspnea, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps*

*Information on: Phosphoric acid, zinc salt (2:1)*

*Symptoms: Overexposure may cause:., Eye irritation, skin irritation, erythema, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps*

*Information on: Orthophosphoric acid*

*Symptoms: Overexposure may cause:., vomiting, acidosis, abdominal cramps, shock, bloody diarrhea*

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Hazards: skin irritation

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

##### Note to physician

Antidote: No known specific antidote.  
Treatment: Symptomatic treatment (decontamination, vital functions).

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### 5. Fire-Fighting Measures

#### Extinguishing media

Suitable extinguishing media:  
carbon dioxide, alcohol-resistant foam, dry powder, water spray

Unsuitable extinguishing media for safety reasons:  
water jet

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

Hazards during fire-fighting:  
nitrogen oxides, phosphorus oxides

#### Advice for fire-fighters

Protective equipment for fire-fighting:  
Appropriate breathing apparatus may be required.

#### Further information:

Cool closed containers in the vicinity of the source of fire. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems.

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### 6. Accidental release measures

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

Use personal protective clothing. Avoid breathing vapours. Keep away from sources of ignition. Ensure adequate ventilation. Advice on product handling can be found in sections 7 and 8 of this safety data sheet.

#### Environmental precautions

Do not allow to enter drains or waterways. Do not discharge into the subsoil/soil. If the product enters drains or sewers, the local water company should be contacted immediately; in the case of contamination of streams, rivers or lakes, the Environment Agency.

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

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in a suitable container for disposal according with the waste regulations (see section 13). Clean preferably with a detergent; avoid the use of solvents. Ensure adequate ventilation.

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### 7. Handling and Storage

#### Precautions for safe handling

Provide good ventilation of working area (local exhaust ventilation if necessary). Do not return residues to the storage containers. Smoking, eating and drinking are forbidden in application area. For personal protection see section 8. Comply with the health and safety at work laws. Avoid inhalation of vapour and spray mist. The workplace should be equipped with an emergency shower

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and eye-rinsing facility. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:

Avoid all sources of ignition: heat, sparks, open flame. The relevant fire protection measures should be noted.

### Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE), Polyethylenetherephtalate (PET), Polypropylene (PP)

Further information on storage conditions: The entrance to storage rooms is to be granted only to appropriately trained personnel. Keep only in the original container. Keep in a cool, well-ventilated place. Avoid direct sunlight. avoid contact with metals Protect from frost.

## 8. Exposure Controls/Personal Protection

### Components with occupational exposure limits

Nitric acid, nickel(2+) salt	OSHA PEL	PEL 1 mg/m <sup>3</sup> (nickel (Ni)); TWA value 0.1 mg/m <sup>3</sup> (nickel (Ni));
	ACGIH TLV	TWA value 0.1 mg/m <sup>3</sup> Inhalable fraction (nickel (Ni));
Orthophosphoric acid	OSHA PEL	PEL 1 mg/m <sup>3</sup> ; STEL value 3 mg/m <sup>3</sup> ; TWA value 1 mg/m <sup>3</sup> ;
	ACGIH TLV	TWA value 1 mg/m <sup>3</sup> ; STEL value 3 mg/m <sup>3</sup> ;

### **Advice on system design:**

Use only in well-ventilated areas.

### **Personal protective equipment**

#### **Respiratory protection:**

Wear respiratory protection if ventilation is inadequate.

#### **Hand protection:**

Chemical resistant protective gloves (EN 374), chloroprene rubber (Neoprene), Further information on penetration time is available from the manufacturer of the glove., The gloves should be replaced immediately in case of damage or signs of wear. It is recommended to use preventative skin protection (skin cream).

#### **Eye protection:**

Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

#### **Body protection:**

Chemical resistant protective clothing according to DIN EN 13034 (Type 6)

#### **General safety and hygiene measures:**

Do not breathe vapour/spray. Eye wash fountains and safety showers must be easily accessible. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Remove contaminated clothing immediately and dispose of safely. Hands and/or face should be washed before breaks and at the end of the shift. Keep separated from food stuffs and feed stocks.

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### 9. Physical and Chemical Properties

Form:	liquid
Odour:	odourless
Odour threshold:	No applicable information available.
Colour:	green
pH value:	< 2.5 ( 20 °C) (undiluted)
Freezing point:	not determined
Melting point:	-27 °C
onset of boiling:	not determined
Boiling range:	not determined
Sublimation point:	No applicable information available.
Flash point:	not applicable
Flammability:	not applicable
Lower explosion limit:	not determined
Upper explosion limit:	not applicable
Autoignition:	not determined
Vapour pressure:	( 20 °C) not determined
Density:	1.583 g/cm <sup>3</sup> ( 20 °C)
Relative density:	1.586
Vapour density:	No data available.
Partitioning coefficient n-octanol/water (log Pow):	No data available.
Thermal decomposition:	No applicable information available.
Viscosity, dynamic:	No applicable information available.
Solubility in water:	fully soluble
Miscibility with water:	miscible
Solubility (quantitative):	No applicable information available.
Solubility (qualitative):	No applicable information available.
Molar mass:	No applicable information available.
Evaporation rate:	1

### 10. Stability and Reactivity

#### Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:

Corrosive effect on metals.

Oxidizing properties:

not fire-propagating

#### Chemical stability

The product is stable if stored and handled as prescribed/indicated.

#### Possibility of hazardous reactions

Reacts with metals, with evolution of hydrogen.

#### Conditions to avoid

Avoid direct sunlight. avoid contact with metals

#### Incompatible materials

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reducing agents, bases

### Hazardous decomposition products

Decomposition products:

When exposed to high temperatures hazardous decomposition products such as carbon monoxide, carbon dioxide, smoke, oxides of nitrogen may be produced., No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:

No applicable information available.

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## 11. Toxicological information

### Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

### Acute Toxicity/Effects

#### Acute toxicity

Assessment of acute toxicity: Of moderate toxicity after single ingestion.

#### Irritation / corrosion

Assessment of irritating effects: Corrosive! Damages skin and eyes. May cause severe damage to the eyes.

#### Sensitization

Assessment of sensitization: The substance may cause sensitization of the respiratory tract. Sensitization after skin contact possible.

### Chronic Toxicity/Effects

#### Carcinogenicity

Assessment of carcinogenicity: The substance caused cancer by inhalation in animal studies. The product has not been tested. The statement has been derived from the properties of the individual components.

#### Teratogenicity

Assessment of teratogenicity: The substance caused malformations/developmental toxicity in laboratory animals. The product has not been tested. The statement has been derived from the properties of the individual components.

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## 12. Ecological Information

### Toxicity

#### Aquatic toxicity

Assessment of aquatic toxicity:

Very toxic to aquatic life. Toxic to aquatic life with long lasting effects. There are no test results available for this product. Do not allow to enter drains or waterways.

### Persistence and degradability



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### Assessment biodegradation and elimination (H<sub>2</sub>O)

No data available concerning biodegradation and elimination.

### **Bioaccumulative potential**

#### Bioaccumulation potential

No data available.

### **Mobility in soil**

#### Assessment transport between environmental compartments

No data available.

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## 13. Disposal considerations

### **Waste disposal of substance:**

Observe national and local legal requirements.

### **Container disposal:**

Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

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## 14. Transport Information

### **Land transport**

USDOT

Hazard class:	8
Packing group:	III
ID number:	UN 3264
Hazard label:	8
Proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains PHOSPHORIC ACID)

### **Sea transport**

IMDG

Hazard class:	8
Packing group:	III
ID number:	UN 3264
Hazard label:	8, EHSM
Marine pollutant:	YES
Proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains PHOSPHORIC ACID, ZINC BIS(DIHYDROGEN PHOSPHATE))

### **Air transport**

IATA/ICAO

Hazard class:	8
Packing group:	III
ID number:	UN 3264
Hazard label:	8
Proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains PHOSPHORIC ACID)

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### 15. Regulatory Information

#### Federal Regulations

##### Registration status:

Chemical TSCA, US released / listed

**EPCRA 311/312 (Hazard categories):** Refer to SDS section 2 for GHS hazard classes applicable for this product.

##### EPCRA 313:

<u>CAS Number</u>	<u>Chemical name</u>
7779-88-6	Nitric acid, zinc salt
13598-37-3	Phosphoric acid, zinc salt (2:1)

<u>CERCLA RQ</u>	<u>CAS Number</u>	<u>Chemical name</u>
100 LBS	13138-45-9	Nitric acid, nickel(2+) salt
1000 LBS	7779-88-6	Nitric acid, zinc salt
5000 LBS	7664-38-2	Orthophosphoric acid

#### State regulations

<u>State RTK</u>	<u>CAS Number</u>	<u>Chemical name</u>
NJ	13598-37-3	Phosphoric acid, zinc salt (2:1)
	7779-88-6	Nitric acid, zinc salt
	7664-38-2	Orthophosphoric acid
PA	13138-45-9	Nitric acid, nickel(2+) salt
	13598-37-3	Phosphoric acid, zinc salt (2:1)
	7779-88-6	Nitric acid, zinc salt
	7664-38-2	Orthophosphoric acid
	13138-45-9	Nitric acid, nickel(2+) salt

#### **Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:**

**WARNING:** This product can expose you to chemicals including NICKEL COMPOUNDS, which is known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

#### **NFPA Hazard codes:**

Health: 3 Fire: 0 Reactivity: 1 Special:

#### **HMIS III rating**

Health: 3 Flammability: 0 Physical hazard: 1

### 16. Other Information

#### **SDS Prepared by:**

BASF NA Product Regulations  
SDS Prepared on: 2020/07/01

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in

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a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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