

Jotaguard RB 4001

Section 1. Identification

GHS product identifier : Jotaguard RB 4001
Other means of identification : Not available.
Product code : 16428
Product type : Powder coating.

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

Identified uses

Use in coatings - Industrial use

Manufacturing country : Jotun Thailand Limited
700/353 Amata Nakorn Industrial Estate (BIP 2)
Moo 6, Tumbol Donhualoh, Amphur Muang Chonburi
Chonburi 20000 Thailand

Phone: + 66 2 022 9888
Fax: + 66 2 022 9888 , + 66 38 214 375

SDSJotun@jotun.com

Emergency telephone number : Jotun Thailand Limited
Phone: + 66 2 022 9888 ext. 3101, 2400, 2402

Section 2. Hazards identification

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
SKIN SENSITISATION - Category 1
CARCINOGENICITY - Category 2
REPRODUCTIVE TOXICITY (Fertility) - Category 1B
REPRODUCTIVE TOXICITY (Unborn child) - Category 1B
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

GHS label elements

Hazard pictograms



Signal word : Danger.

Hazard statements : H318 - Causes serious eye damage.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H360 - May damage fertility or the unborn child.
H351 - Suspected of causing cancer.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Section 2. Hazards identification

- Prevention** : 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.
P280 - Wear protective gloves. Wear eye or face protection.
P273 - Avoid release to the environment.
P264 - Wash hands thoroughly after handling.
- Response** : P308 + P313 - IF exposed or concerned: Get medical attention.
P302 + P352 + P362 + P363 - IF ON SKIN: Wash with plenty of soap and water.
Take off contaminated clothing. Wash contaminated clothing before reuse.
P333 + P313 - If skin irritation or rash occurs: Get medical attention.
P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or physician.
- Storage** : P405 - Store locked up.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

CAS number/other identifiers

- CAS number** : Not applicable.
- EC number** : Mixture.
- Product code** : 16428

Ingredient name	%	CAS number
bisphenol a	≤5	80-05-7
calcium oxide	≤3	1305-78-8
phenol, polymer with formaldehyde, glycidyl ether	≤3	28064-14-4
1h-imidazole, 2-methyl-	≤3	693-98-1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Section 4. First aid measures

- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced foetal weight
increase in foetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Fine dust clouds may form explosive mixtures with air.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides
 sulfur oxides
 metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and material for containment and cleaning up

- Small spill** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

- Precautions for safe handling** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. See Technical Data Sheet / packaging for further information.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Dust Limit : 10 mg/m³ (TWA of total inhalable dust) and 4 mg/m³ (TWA of respirable)

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Individual protection measures**
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying to EN 166 should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Section 8. Exposure controls/personal protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.
 The breakthrough time must be greater than the end use time of the product.
 The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
 Gloves should be replaced regularly and if there is any sign of damage to the glove material.
 Always ensure that gloves are free from defects and that they are stored and used correctly.
 The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.
 Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.
 Wear suitable gloves tested to EN374.
 Recommended, gloves(breakthrough time) > 8 hours: PVC, neoprene, nitrile rubber, butyl rubber

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- If workers are exposed to concentrations above the exposure limit, they must use a respirator according to EN 140. If dust is generated and ventilation is inadequate, use respirator that will protect against dust/mist. (FFP2 / N95).

Section 9. Physical and chemical properties

Appearance

- Physical state** : Solid. Powder.
- Colour** : Various
- Odour** : Odourless.
- Odour threshold** : Not available.
- pH** : Not applicable.
- Melting point** : Not applicable.
- Boiling point** : Not available.
- Flash point** : Not available.
- Burning time** : Not available.
- Burning rate** : Not available.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not applicable.
- Lower explosion limit** : 30 g/m³
- Minimum ignition energy (mJ)** : 10 - 30
- Vapour pressure** : Highest known value: 0 kPa (0 mm Hg) (at 20°C) (bisphenol a).
- Vapour density** : Not available.
- Relative density** : 1.25 to 1.35 g/cm³
- Solubility** : Insoluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/ water** : Not available.
- Auto-ignition temperature** : > 400°C
- Decomposition temperature** : >250°C (>482°F)

Section 9. Physical and chemical properties

SADT : Not available.
 Viscosity : Not applicable.
 Aerosol product

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.
 Chemical stability : The product is stable.
 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
 Conditions to avoid : No specific data.
 Incompatible materials : Not applicable.
 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
 Fine dust clouds may form explosive mixtures with air.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
1h-imidazole, 2-methyl-	LD50 Oral	Mouse	1400 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
bisphenol a	Eyes - Severe irritant	Rabbit	-	24 hours 250 Micrograms	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	250 milligrams	-
	Eyes - Irritant	Mammal - species unspecified	-	-	-
calcium oxide	Eyes - Irritant	Mammal - species unspecified	-	-	-
	Skin - Mild irritant	Mammal - species unspecified	-	-	-
phenol, polymer with formaldehyde, glycidyl ether	Skin - Mild irritant	Mammal - species unspecified	-	-	-
	Eyes - Mild irritant	Mammal - species unspecified	-	-	-

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
bisphenol a	skin	Mammal - species unspecified	Sensitising
phenol, polymer with formaldehyde, glycidyl ether	skin	Mammal - species unspecified	Sensitising

Mutagenicity

Not available.

Carcinogenicity

Section 11. Toxicological information

Not available.

[Reproductive toxicity](#)

Not available.

[Teratogenicity](#)

Not available.

[Specific target organ toxicity \(single exposure\)](#)

Name	Category	Route of exposure	Target organs
bisphenol a	Category 3	Not applicable.	Respiratory tract irritation
calcium oxide	Category 3	Not applicable.	Respiratory tract irritation

[Specific target organ toxicity \(repeated exposure\)](#)

Not available.

[Aspiration hazard](#)

Not available.

[Potential acute health effects](#)

- [Eye contact](#) : Causes serious eye damage.
- [Inhalation](#) : No known significant effects or critical hazards.
- [Skin contact](#) : Causes skin irritation. May cause an allergic skin reaction.
- [Ingestion](#) : No known significant effects or critical hazards.

[Symptoms related to the physical, chemical and toxicological characteristics](#)

- [Inhalation](#) : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations
- [Ingestion](#) : Adverse symptoms may include the following:
stomach pains
reduced foetal weight
increase in foetal deaths
skeletal malformations
- [Skin contact](#) : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced foetal weight
increase in foetal deaths
skeletal malformations
- [Eye contact](#) : Adverse symptoms may include the following:
pain
watering
redness

[Potential chronic health effects](#)

- [General](#) : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- [Carcinogenicity](#) : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- [Mutagenicity](#) : No known significant effects or critical hazards.
- [Teratogenicity](#) : May damage the unborn child.
- [Developmental effects](#) : No known significant effects or critical hazards.
- [Fertility effects](#) : May damage fertility.

Section 11. Toxicological information

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	41227.76 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
bisphenol a	Acute EC50 1000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 1.506 mg/l	Algae - Prorocentrum minimum - Exponential growth phase	72 hours
	Acute EC50 7.75 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1.34 mg/l Marine water	Crustaceans - Americamysis bahia - Larvae	48 hours
	Acute LC50 3.5 mg/l Marine water	Fish - Rivulus marmoratus - Embryo	96 hours
	Chronic NOEC 2 mg/l Fresh water	Algae - Chlorolobion braunii - Exponential growth phase	4 days
	Chronic NOEC 0.05 mg/l Fresh water	Crustaceans - Asellus aquaticus - Juvenile (Fledgling, Hatchling, Weanling)	21 days
	Chronic NOEC 30 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
phenol, polymer with formaldehyde, glycidyl ether	Chronic NOEC 0.2 µg/l Fresh water	Fish - Carassius auratus - Adult	90 days
	Acute EC50 3.3 mg/l	Daphnia	48 hours
1h-imidazole, 2-methyl-	Acute LC50 7.5 mg/l	Fish	96 hours
	Acute LC50 286000 to 307000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
phenol, polymer with formaldehyde, glycidyl ether	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
bisphenol a	3.4	20 to 67	low
calcium oxide	-	2.34	low
1h-imidazole, 2-methyl-	0.24	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	UN	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Special precautions for user	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Additional information	-	-	-

Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.
ADR / RID

Section 15. Regulatory information

[Hazardous Substance Act B.E. 2535 \(1992\)](#)

[Type](#)

[Ingredient name](#)

[Type](#)

[Authority](#)

[Conditions](#)

No known specific national and/or regional regulations applicable to this product (including its ingredients).

Section 16. Other information

History

Date of printing : 21.08.2020

Date of issue/Date of revision : 21.08.2020

Date of previous issue : 24.04.2017

Version : 2.08

Key to abbreviations : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
UN = United Nations
LogPow = logarithm of the octanol/water partition coefficient

References : Not available.

✔ Indicates information that has changed from previously issued version.

Notice to reader

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.