SAFETY DATA SHEET

Biosan ® Aqua Plus Activator

1. Identification of the substance/preparation and of the company/undertaking

Product name and/or code : **Biosan ® Aqua Plus Activator**

Manufacturer : Rust-Oleum Netherlands BV, PO. Box 138, NL-4700 AC Roosendaal, The Netherlands
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Product use : Hardener for resins.

2. Composition/information on ingredients

Substance/preparation : Preparation

Chemical name*	CAS No.	%	EC number	Classification
Europe				
Bisphenol-A-epoxy resin avg.mol.wght. < 700		50 - 100	500-033-5	Xi; R36/38 R43 N; R51/53
Bisphenol-F-epoxy resin avg.mol.wght. < 700		10 - 25	500-006-8	Xi; R36/38 R43 N; R51/53
C12-C15 Alkylglycidylether	68609-97-2	10 - 25	271-846-8	Xi; R36/38 R43
See section 16 for the full text of the R Phrases declared above				

*** Occupational Exposure Limit(s), if available, are listed in section 8**

3. Hazards identification

The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : R36/38- Irritating to eyes and skin.
R43- May cause sensitization by skin contact.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The preparation may be a skin sensitizer. It also might be a skin irritant and repeated contact might increase this effect.

4. First aid measures

First-Aid measures

General : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if irregular breathing, or respiratory arrest occurs provide artificial respiration or oxygen by trained personnel. Give nothing by mouth. If unconscious, place in recovery position and seek medical advice.

Skin Contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Eye Contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting.

See section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting measures

Extinguishing Media : Recommended: alcohol resistant foam, CO_2, powders, water spray.
Not to be used : waterjet.

Recommendations : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Appropriate breathing apparatus may be required. Cool closed containers exposed to fire with water. Do not release runoff from fire to sewers or waterways.

Special fire-fighting procedures : Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

6. Accidental release measures

Personal precautions : Exclude sources of ignition and ventilate the area. Avoid breathing vapor or mist. Refer to protective measures listed in sections 7 and 8.

Spill : Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth, and place in container for disposal according to local regulations (see section 13). Do not allow to enter drains or watercourses. Clean preferably with a detergent; avoid use of solvents. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

Note: see section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

Handling : Keep container tightly closed. Keep away from heat, sparks and flame. No sparking tools should be used.

Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates and spray mist arising from the application of this preparation. Avoid inhalation of dust from sanding.

Eating, drinking and smoking should be prohibited in area where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.

Put on appropriate personal protective equipment (see Section 8).

Never use pressure to empty: container is not a pressure vessel. Always keep in containers made from the same material as the original one.

Comply with the health and safety at work laws.

Storage : Store in accordance with local regulations. Observe label precautions. Store in a cool, well-ventilated area away from incompatible materials and ignition sources.

Keep away from: oxidizing agents, strong alkalis, strong acids.
No smoking. Prevent unauthorized access. Containers that are opened must be carefully resealed and kept upright to prevent leakage.
Do not empty into drains..

8. Exposure controls/personal protection

Engineering measures : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapors below the OEL, suitable respiratory protection must be worn.

Hygiene measures : Keep away from food, drink and animal feeding stuffs. Never eat, drink or smoke in work areas. Practice good personal hygiene when using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. It is generally recognized that contact lenses should not be worn when working with chemicals because contact lenses may contribute to the severity of an eye injury. Apply water proof skin cream before beginning work. Separate contaminated work clothes from street clothes. Launder before reuse. Remove material from shoes and clean personal protective equipment. After handling, always wash hands thoroughly with soap and water.

Occupational exposure limits : Not available.

Recommended monitoring procedures : No special measures are required. General ventilation is typically sufficient. Provide eye wash and quick drench shower close to work station.

Occupational exposure controls : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal protective equipment

Respiratory system : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators.

Hands : For prolonged or repeated handling, use gloves: nitrile.

Barrier creams may help to protect the exposed areas of the skin, but should not be applied once exposure has occurred.

Skin and body : Personnel should wear antistatic clothing made of natural fibers or of high-temperature-resistant synthetic fibers.

Eyes : Use safety eyewear designed to protect against splash of liquids.

9. Physical and chemical properties

Physical state : Liquid.

Color : Yellowish.

Odor : Odorless.

Specific gravity : 1.11 to 1.16 (Water = 1)

pH : Basic.

Melting point : May start to solidify at -10°C (14°F) based on data for: Bisphenol-A-epoxy resin avg.mol.wght. < 700.

Boiling point : >200°C (392°F)

Auto-ignition temperature : >450°C (842°F)

Flash point : Closed cup: 177°C (350.6°F).

Evolves toxic fumes when heated to the decomposition state. (Bisphenol-A-epoxy resin avg.mol.wght. < 700)

Vapor pressure : <0.01 kPa (<0.1 mm Hg) (at 20°C)

Vapor density : >1 (Air = 1)

Evaporation rate : <1 compared to Butyl acetate.

Solubility : Insoluble in cold water, hot water.

Viscosity : Dynamic: The highest known value is 7000 to 10000 cP (Bisphenol-A-epoxy resin avg.mol.wght. < 700) Weighted average: 6500 cP

Volatility (%) : 0% (v/v). 0% (w/w).

VOC (W/W): : 0 (g/l).

10. Stability and reactivity

Stable under recommended storage and handling conditions (see section 7).

Hazardous decomposition products: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

11. Toxicological information

There is no data available on the preparation itself. The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See Chapters 2 and 15 for details.

Based on the properties of epoxy constituent(s) and considering toxicological data on similar preparations, this preparation may be a skin sensitizer and a severe irritant. It contains epoxy-based reactive diluents which are moderately to severely irritating to eyes, mucous membranes and skin and are strong sensitizers. Repeated skin contact may lead to irritation and to hypersensitivity, possibly with cross-sensitization to other epoxies. Single oral exposure to doses of the epoxy-based reactive diluents at or close to the lethal dose has been shown to cause transient neurotoxic effects in animals in some cases. However, uptake through skin and by inhalation has not caused such effects in animals. Prolonged exposure to high concentrations may cause adverse effects in target organs such as the liver and kidneys.

Contains (Bisphenol-A-epoxy resin avg.mol.wght. < 700, Bisphenol-F-epoxy resin avg.mol.wght. < 700, Oxirane, mono [(C12-C16-alkyloxy)methyl] derivatives). May produce an allergic reaction.

Potential acute health effects

Ingestion : Ingestion may cause gastrointestinal irritation and diarrhea.

Inhalation : Slightly hazardous in case of inhalation (lung irritant). Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Over-exposure by inhalation may cause respiratory irritation.

Skin contact : Hazardous in case of skin contact (irritant, sensitizer). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. May cause sensitization by skin contact. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Eye contact : Hazardous in case of eye contact (irritant).

Other toxic effects on humans : May cause sensitization by skin contact. May cause allergic skin reactions with repeated exposure. Repeated exposure may cause allergic skin rash, itching, swelling. The onset of symptoms may be delayed. Persons with a history of skin sensitization problems should not be employed in any process in which this preparation is used.

Acute Data (LD_{50}, LC_{50}) - Toxicity to Test Animals

Ingredient name	Test	Result	Route	Species
Bisphenol-A-epoxy resin avg.mol.wght. < 700	LD50	13600 mg/kg	Oral	Rat
	LD50	20000 mg/kg	Oral	Mouse
	LD50	>2000 mg/kg	Dermal	Rabbit
C12-C15 Alkylglycidylether	LD50	>10000 mg/kg	Oral	Rat

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

12. Ecological information

There is no data available on the preparation itself.
Do not allow to enter drains or watercourses.

The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and is classified for eco-toxicological properties accordingly. See Sections 2 and 15 for details.

Ecotoxicity data

Ingredient name	Result	Period	Species
Bisphenol-A-epoxy resin avg.mol.wght. < 700	fathead minnow Fathead minnow (pimephales promelas)	24 hour(s)	3.1 mg/l
	zebra fish zebra fish (brachydanio rerio)	24 hour(s)	9.4 mg/l
	daphnia (EC50)	24 hour(s)	1 mg/l
C12-C15 Alkylglycidylether	Daphnia (EC50)	48 hour(s)	1 to 10 mg/l

Ingredient name	Persistence/degradability						Bioaccumulative potential		
	BOD_5	COD	ThOD	Aquatic half-life	Photolysis	Biodegradability	$LogP_{ow}$	BCF	Potential
Bisphenol-A-epoxy resin avg.mol.wght. < 700						Not readily	>3		high
Bisphenol-F-epoxy resin avg.mol.wght. < 700						Not readily			
C12-C15 Alkylglycidylether							>3		high

13. Disposal considerations

Do not allow to enter drains or watercourses.
Dispose of according to all federal, state and local applicable regulations.

Methods of disposal ; Waste of residues ; Contaminated packaging :
Type: Hazardous chemical waste.
Location: European Union
Classification: H12 (Environmentally hazardous)
Disposal.: via incineration
Storage: * (No specific storage is required. Use shelves or cabinets sturdy enough to bear the weight of the chemicals. Be sure that it is not necessary to strain to reach materials, and that shelves are not overloaded. Storage of controlled substances must comply with applicable regulatory security requirements,)
Recycling: * (Not applicable.)

European waste catalogue (EWC) : 080111

14. Transport information

International transport regulations

Regulatory Information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
ADR/RID Class	3082	Environmentally hazardous substance, liquid, n.o.s. (Bisphenol-F-epoxy resin avg.mol.wght. < 700)	9	III		**Hazard identification number** **90** **Limited quantity** **LQ28** **CEFIC Tremcard** **90G01**
IMDG Class	3082	Environmentally hazardous substance, liquid, n.o.s. (Bisphenol-F-epoxy resin avg.mol.wght. < 700)	9	III		-
IATA-DGR Class	3082	Environmentally hazardous substance, liquid, n.o.s. (Bisphenol-F-epoxy resin avg.mol.wght. < 700)	9	III		-

15. Regulatory information

EU Regulations : The product is labelled as follows, in accordance with local regulations:

Hazard symbol(s) :

Irritant, Dangerous for the environment.

Risk Phrases : R36/38- Irritating to eyes and skin.
R43- May cause sensitization by skin contact.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases : S23- Do not breathe spray.
S25- Avoid contact with eyes.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S29- Do not empty into drains.
S36/37- Wear suitable protective clothing and gloves.
S51- Use only in well-ventilated areas.
S61- Avoid release to the environment. Refer to special instructions/Safety data sheets.

Contains :

Bisphenol-A-epoxy resin avg.mol.wght. < 700	500-033-5
Bisphenol-F-epoxy resin avg.mol.wght. < 700	500-006-8
C12-C15 Alkylglycidylether	271-846-8

Product use : Classification and labeling have been performed according to EU directives 67/548/EEC, 1999/45/EC including amendments and the intended use.
- Industrial applications.

Additional warning phrases : Contains epoxy constituents. See information supplied by the manufacturer. This information is provided by the current Safety Data Sheet.

EC Statistical classification (Tariff Code) : 3907 30 00

16. Other information

Full text of R-phrases appearing in section 2: : R36/38- Irritating to eyes and skin.
R43- May cause sensitization by skin contact.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Designation of symbols in Section 2 : Xi - Irritant
N - Dangerous for the environment.

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