

## JOTUN Multicolor Solvent-Free YC

### Section 1. Identification

**GHS product identifier** : JOTUN Multicolor Solvent-Free YC  
**Other means of identification** : Not available.  
**Product code** : 52462  
**Product description** : Colouring material. Waterborne paint.  
**Product type** : Liquid.

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

**Identified uses**

Use in coatings - Industrial use

**Supplier's details** : Jotun (Singapore) Pte Ltd  
 37 Tuas View Crescent  
 Singapore 637236  
 Phone: 6508 8288  
 Fax: 6265 7484  
 SDSJotun@jotun.com  
**Emergency telephone number** : Jotun (Singapore) Pte Ltd, Tel: 6508 8288

### Section 2. Hazards identification

**Classification of the substance or mixture** : LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2

**GHS label elements**

**Hazard pictograms** :



**Signal word** : No signal word.  
**Hazard statements** : H411 - Toxic to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention** : P273 - Avoid release to the environment.  
**Response** : P391 - Collect spillage.  
**Storage** : Not applicable.  
**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.

**Date of issue** : 22.03.2023

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## Section 3. Composition/information on ingredients

**Product code** : 52462

Ingredient name	%	CAS number
trizinc bis(orthophosphate)	≤3	7779-90-0
bismuth vanadium oxide (bivo4)	≤3	14059-33-7
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-(C8-18 and C18-unsatd. acyl) derivs., inner salts	≤3	147170-44-3
octabenzone	≤0.3	1843-05-6
3-iodo-2-propynyl butylcarbamate (IPBC)	≤0.3	55406-53-6
bronopol	≤0.1	52-51-7
2-octyl-2h-isothiazol-3-one (OIT)	<0.05	26530-20-1
C(M)IT/MIT (3:1)	<0.003	55965-84-9

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.

**Chemical formula** : Not applicable.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel.

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

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### 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.

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.

## Section 5. Firefighting measures

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic 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.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
phosphorus 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. 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. Collect spillage.

### Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : 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.

## Section 7. Handling and storage

**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. 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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

None.

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**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. 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 ISO 16321-1:2022 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: safety glasses with side-shields.

### Skin protection

#### **Hand 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 ISO 374-1:2016. Recommended, gloves(breakthrough time) > 8 hours: nitrile rubber (> 0.4 mm), neoprene (> 0.35 mm), butyl rubber (> 0.4 mm), PVC (> 0.5 mm), fluor rubber (> 0.35 mm), polyvinyl alcohol (PVA) (> 0.3 mm)

For right choice of glove materials, with focus on chemical resistance and time of penetration, seek advice by the supplier of chemical resistant gloves.

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

**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.

## Section 8. Exposure controls/personal protection

- 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.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.
- Colour** : Yellow.
- Odour** : Characteristic. [Slight]
- Odour threshold** : Not available.
- pH** : 7.5-9
- Melting point** : 0
- Boiling point** : Lowest known value: 100°C (212°F) (water).
- Flash point** : Not available.
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : 0.36 (water) compared with butyl acetate
- Flammability (solid, gas)** : Not applicable.
- Lower and upper explosive (flammable) limits** : Not applicable.
- Vapour pressure** : Highest known value: 3.2 kPa (23.8 mm Hg) (at 20°C) (water). Weighted average: 2.88 kPa (21.6 mm Hg) (at 20°C)
- Vapour density** : Not available.
- Relative density** : 1.96 g/cm<sup>3</sup>
- Solubility** : Easily soluble in the following materials: cold water and hot water.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Lowest known value: 444.85°C (832.7°F) (soybean oil).
- Decomposition temperature** : Not available.
- SADT** : Not available.
- Viscosity** : Kinematic (40C): >20.5 cSt

## 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** : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- SADT** : Not available.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

## Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
octabenzene	LD50 Dermal	Rabbit	>10 g/kg	-
	LD50 Oral	Rat	>10 g/kg	-
3-iodo-2-propynyl butylcarbamate (IPBC)	LD50 Oral	Rat	1470 mg/kg	-
2-octyl-2h-isothiazol-3-one (OIT)	LD50 Dermal	Rabbit	690 mg/kg	-
	LD50 Dermal	Rabbit	690 mg/kg	-
	LD50 Oral	Rat	550 mg/kg	-
C(M)IT/MIT (3:1)	LD50 Oral	Rat	53 mg/kg	-

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-(C8-18 and C18-unsatd. acyl) derivs., inner salts	Eyes - Irritant	Mammal - species unspecified	-	-	-
3-iodo-2-propynyl butylcarbamate (IPBC)	Eyes - Irritant	Mammal - species unspecified	-	-	-
bronopol	Eyes - Irritant	Mammal - species unspecified	-	-	-
	Skin - Mild irritant	Mammal - species unspecified	-	-	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Human	-	10 milligrams	-
	Skin - Moderate irritant	Rabbit	-	80 milligrams	-

### Sensitisation

Product/ingredient name	Route of exposure	Species	Result
3-iodo-2-propynyl butylcarbamate (IPBC)	skin	Mammal - species unspecified	Sensitising
2-octyl-2h-isothiazol-3-one (OIT)	skin	Mammal - species unspecified	Sensitising
C(M)IT/MIT (3:1)	skin	Mammal - species unspecified	Sensitising

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
bronopol	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

## Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
bismuth vanadium oxide (bivo4) 3-iodo-2-propynyl butylcarbamate (IPBC)	Category 2 Category 1	inhalation -	- trachea

### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.  
**Inhalation** : No specific data.  
**Skin contact** : No specific data.  
**Ingestion** : No specific data.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

- Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

- General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Inhalation (dusts and mists)	477.94 mg/l

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
trizinc bis(orthophosphate)	Acute LC50 0.14 mg/l Chronic NOEC 0.1 mg/l	Fish - Oncorhynchus mykiss Micro-organism	96 hours 4 hours
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-(C8-18 and C18-unsatd. acyl) derivs., inner salts	Acute EC50 1.9 mg/l  Acute LC50 11.1 mg/l	Algae  Fish	48 hours  96 hours

## Section 12. Ecological information

3-iodo-2-propynyl butylcarbamate (IPBC)	Acute EC50 0.022 mg/l Acute EC50 0.16 mg/l Acute LC50 0.067 mg/l Chronic NOEC 70 ppb Fresh water	Algae - Scenedesmus subspicatus Crustaceans - Daphnia magna Fish - Oncorhynchus mykiss Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	72 hours 48 hours 96 hours 96 hours
bronopol	Acute EC50 0.18 ppm Marine water Acute EC50 1.6 ppm Fresh water Acute LC50 11.17 ppm Fresh water Chronic NOEC 1.94 ppm	Algae - Skeletonema costatum Daphnia - Daphnia magna Fish - Lepomis macrochirus Fish - Oncorhynchus mykiss	96 hours 48 hours 96 hours 49 days
2-octyl-2h-isothiazol-3-one (OIT)	Acute EC50 0.084 mg/l	Algae - Scenedesmus subspicatus Daphnia	72 hours 48 hours
C(M)IT/MIT (3:1)	Acute EC50 0.32 mg/l Acute LC50 0.047 mg/l Acute EC50 0.048 mg/l	Fish Algae - Pseudokirchneriella subcapitata	96 hours 72 hours
	Acute EC50 0.0052 mg/l Acute EC50 0.1 mg/l Acute LC50 0.22 mg/l Acute NOEC 0.00064 mg/l Chronic NOEC 0.0012 mg/l	Algae - Skeletonema costatum Daphnia - Daphnia magna Fish - Oncorhynchus mykiss Algae - Skeletonema costatum Algae - Pseudokirchneriella subcapitata	48 hours 48 hours 96 hours 48 hours 72 hours
	Chronic NOEC 0.004 mg/l Chronic NOEC 0.098 mg/l	Daphnia - Daphnia magna Fish - Oncorhynchus mykiss	21 days 28 days

### Persistence/degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
trizinc bis(orthophosphate)	-	-	Not readily
3-iodo-2-propynyl butylcarbamate (IPBC)	-	-	Readily
C(M)IT/MIT (3:1)	-	-	Not readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
trizinc bis(orthophosphate)	-	60960	high
bismuth vanadium oxide (bivo4)	-	<14	low
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-(C8-18 and C18-unsatd. acyl) derivs., inner salts	1.79	71	low
octabenzene	>6	99	low
bronopol	0.18	-	low
2-octyl-2h-isothiazol-3-one (OIT)	2.45	-	low
C(M)IT/MIT (3:1)	-	3.16	low

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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

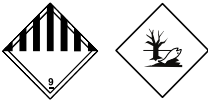

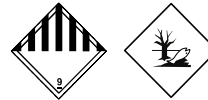


## Section 13. Disposal considerations

emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

Do not allow to enter drains or watercourses. Material and/or container must be disposed of as hazardous waste.

## Section 14. Transport information

	UN	IMDG	IATA
<b>UN number</b>	UN3082	UN3082	UN3082
<b>UN proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s. (PAINT)	Environmentally hazardous substance, liquid, n.o.s. (PAINT). Marine pollutant (trizinc bis(orthophosphate), 2-octyl-2h-isothiazol-3-one (OIT))	Environmentally hazardous substance, liquid, n.o.s. (PAINT)
<b>Transport hazard class(es)</b>	9 	9 	9 
<b>Packing group</b>	III	III	III
<b>Environmental hazards</b>	Yes.	Yes.	Yes.
<b>Additional information</b>	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. <b>Emergency schedules</b> F-A, S-F	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

### Additional information

Transport in accordance with ADR/RID, IMDG/IMO and ICAO/IATA and national regulation.

**ADR / RID** : Tunnel restriction code: (-)  
Hazard identification number: 90

This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

**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 in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### Singapore - hazardous chemicals under government control

None.

## Section 16. Other information

**Key to abbreviations** : 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  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
UN = United Nations

**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.