

Pilot WF Alu

Section 1. Identification

GHS product identifier : Pilot WF Alu
Other means of identification : Not available.
Product code : 31162
Product description : Waterborne paint.
Product type : Liquid.

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

Identified uses

Use in coatings - Industrial use
 Use in coatings - Professional 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 : SKIN CORROSION/IRRITATION - Category 2
 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A
 SKIN SENSITISATION - Category 1
 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2

GHS label elements

Hazard pictograms



Signal word : Warning.
Hazard statements : Causes skin irritation.
 May cause an allergic skin reaction.
 Causes serious eye irritation.
 Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. Avoid release to the environment. Avoid breathing vapour.
Response : Collect spillage. Take off contaminated clothing and wash it before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.
Storage : Not applicable.
Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Section 2. Hazards identification

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 : 31162

Ingredient name	%	CAS number
2-butoxyethanol	≤3	111-76-2
4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT)	≤0.23	64359-81-5
3-iodo-2-propynyl butylcarbamate (IPBC)	<0.1	55406-53-6

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. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention if adverse health effects persist or are severe. 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.
- Skin contact** : 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. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : 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. Get medical attention if adverse health effects persist or are severe. 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 irritation.
- 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

Section 4. First aid measures

Eye contact	: Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: No specific data.
Skin contact	: Adverse symptoms may include the following: irritation redness
Ingestion	: No specific data.
<u>Indication of immediate medical attention and special treatment needed, if necessary</u>	
Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: No specific treatment.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. 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	: 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 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. Avoid breathing vapour or mist. 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. 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.
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Section 6. Accidental release measures

- 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). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. 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.

- 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

Ingredient name	Exposure limits
2-butoxyethanol	Workplace Safety and Health Act (Singapore, 2/2006). PEL (long term): 25 ppm 8 hours. PEL (long term): 121 mg/m ³ 8 hours.

- 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. 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.

Skin protection

Section 8. Exposure controls/personal 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 EN374.
Recommended, gloves(breakthrough time) > 8 hours: butyl rubber, Viton®, Saranex, neoprene
May be used, gloves(breakthrough time) 4 - 8 hours: 4H, nitrile rubber, polyvinyl alcohol (PVA)
Not recommended, gloves(breakthrough time) < 1 hour: PVC
- 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.
- 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** : Aluminium
- Odour** : Characteristic.
- Odour threshold** : Not available.
- pH** : 8-9
- Melting point** : 0
- Boiling point** : Lowest known value: 100°C (212°F) (water). Weighted average: 115.13°C (239.2°F)
- Flash point** : Not available.
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : Highest known value: 0.36 (water) Weighted average: 0.32 compared with butyl acetate
- Flammability (solid, gas)** : Not applicable.
- Lower and upper explosive (flammable) limits** : 0.6 - 14%
- Vapour pressure** : Highest known value: 3.2 kPa (23.8 mm Hg) (at 20°C) (water). Weighted average: 2.97 kPa (22.28 mm Hg) (at 20°C)
- Vapour density** : Highest known value: 7.5 (Air = 1) (propanoic acid, 2-methyl-, monoester with 2,2,4-trimethyl-1,3-pentanediol). Weighted average: 5.2 (Air = 1)
- Relative density** : 1.059 to 1.061 g/cm³

Section 9. Physical and chemical properties

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	: Not applicable.
Decomposition temperature	: Not available.
SADT	: Not available.
Viscosity	: Dynamic: Highest known value: 12.9 cP (propanoic acid, 2-methyl-, monoester with 2,2,4-trimethyl-1,3-pentanediol) Kinematic: Highest known value: 3.82 cSt (dipropylene glycol methyl ether) Weighted average: 3.76 cSt 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

Product/ingredient name	Result	Species	Dose	Exposure
2-butoxyethanol	LD50 Oral	Guinea pig - Male, Female	1414 mg/kg	-
	LD50 Oral	Rat - Male, Female	1300 mg/kg	-
3-iodo-2-propynyl butylcarbamate (IPBC)	LD50 Oral	Rat	1470 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-butoxyethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
3-iodo-2-propynyl butylcarbamate (IPBC)	Eyes - Irritant	Mammal - species unspecified	-	-	-

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT)	skin	Mammal - species unspecified	Sensitising
3-iodo-2-propynyl butylcarbamate (IPBC)	skin	Mammal - species unspecified	Sensitising

Mutagenicity

Not available.

Carcinogenicity

Not available.

Section 11. Toxicological information

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
3-iodo-2-propynyl butylcarbamate (IPBC)	Category 1	-	trachea

Aspiration hazard

Not available.

Information on likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- 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

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- 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** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- 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

Section 11. Toxicological information

Route	ATE value
Oral	48979.69 mg/kg
Inhalation (vapours)	448.98 mg/l
Inhalation (dusts and mists)	111.03 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
2-butoxyethanol	Acute EC50 1000 mg/l Fresh water Acute LC50 1000 mg/l Marine water	Daphnia - Daphnia magna Crustaceans - Chaetogammarus marinus - Young	48 hours 48 hours
4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT)	Acute EC50 0.0057 mg/l Acute LC50 0.014 mg/l Acute LC50 0.0027 mg/l Chronic NOEC 0.00056 mg/l	Crustaceans - Daphnia magna Fish - Lepomis macrochirus Fish - Onchorhynchus mykiss Fish	48 hours 96 hours 96 hours 97 days
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

Persistence/degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT)	-	-	Readily
3-iodo-2-propynyl butylcarbamate (IPBC)	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
2-butoxyethanol	0.81	-	low

Mobility in soil

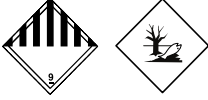

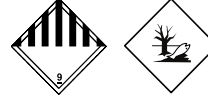
Soil/water partition coefficient (K_{oc}) : Not available.

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. 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
UN number	UN3082	UN3082	UN3082
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT))	Environmentally hazardous substance, liquid, n.o.s. (4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT)). Marine pollutant (4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT))	Environmentally hazardous substance, liquid, n.o.s. (4,5-dichloro-2-octyl-2H-isothiazol-3-one (DCOIT))
Transport hazard class(es)	9 	9 	9 
Packing group	III	III	III
Environmental hazards	Yes.	Yes.	Yes.
Additional information	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. Emergency schedules 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.

Section 16. Other information

[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.