Amodel® A-4422 LS WH 118

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

- Trade name Amodel® A-4422 LS WH 118

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

Uses of the Substance/Mixture

- Plastics industry

1.3 Details of the supplier of the safety data sheet

Company

Syensqo (Shanghai) International Trading Co., Ltd.
3966, JINDU RD, XINZHUANG INDUSTRIAL ZONE, MINHANG DISTRICT, SHANGHAI, CHINA 201108
Tel: +86 21 2350 1000

E-mail address

For questions about SDS content: manager.sds@syensqo.com
For all other topics use: www.syensqo.com/en/form/documentation

1.4 Emergency telephone number

400 120 6011 (toll-free, access from China only)
NRCC
CHINA (DOMESTIC ONLY): +86 532 8388 9090 (Qingdao)
MULTI LINGUAL EMERGENCY NUMBER (24/7)
Europe/Latin America/Africa:+44 1235 239 670 (UK)
Middle East/Africa speaking Arabic: +44 1235 239 671 (UK)
Asia Pacific : +65 3158 1074 (Singapore)
China : 400 120 6011 (toll-free, access from China only)
North America : +1 800 424 9300

SECTION 2: Hazards identification

2.1 Emergency overview

Appearance	Form:	pellets
	Physical state:	solid
	Colour:	white
	Odour	odourless

Harmful to aquatic life with long lasting effects.

2.2 Classification of the substance or mixture

GHS Classification and Labeling: Follow GB 15258 and GB 30000 series standard

Long-term (chronic) aquatic hazard, Category 3 H412: Harmful to aquatic life with long lasting effects.

2.3 Label elements

GHS Classification and Labeling: Follow GB 15258 and GB 30000 series standard

Hazardous products which must be listed on the label

- CAS-No. 26741-53-7 Bis(2,4-di-tert-butylphenyl)pentaerythritol diphosphite

Hazard statements

- H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

General
- None

Prevention
- P273 Avoid release to the environment.

Response
- None

Storage
- None

Disposal
- P501 Dispose of contents/ container to an approved waste disposal plant.

2.4 Physical and chemical hazards

- Not classified based on available information.

2.5 Health hazards

- Not classified based on available information.

2.6 Environmental hazards

Harmful to aquatic life with long lasting effects.

2.7 Other hazards which do not result in classification

None known.

SECTION 3: Composition/information on ingredients

3.1 Substance

- Not applicable, this product is a mixture.

3.2 Mixture

Information on Components and Impurities

Chemical name	CAS-No.	Identification number	GHS Classification	Concentration [%]
Polyphthalamide	*****	*****	Not classified	>= 50 - <= 60
Mineral Filler	*****	*****	Not classified	>= 20 - < 25
Titanium oxide	13463-67-7	Not applicable	Not classified	>= 15 - < 20

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

In case of inhalation

- If symptoms persist, call a physician.

In case of skin contact

- Wash off with soap and water.
- Wash contaminated clothing before re-use.
- If symptoms persist, call a physician.
- Cool skin rapidly with cold water after contact with hot polymer.
- Do not peel polymer from the skin.
- Obtain medical attention.

In case of eye contact

- Flush eyes with running water for several minutes, while keeping the eyelids wide open.
- If eye irritation persists, consult a specialist.

In case of ingestion

- Never give anything by mouth to an unconscious person.
- If a large amount is swallowed, get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

In case of inhalation

Effects
- Mechanical irritation from the particulates generated by the product.
- Thermal decomposition can lead to release of hazardous gases and vapors

In case of skin contact

Effects
- Mechanical irritation from the particulates generated by the product.

In case of eye contact

Effects
- Mechanical irritation from the particulates generated by the product.

In case of ingestion

Effects
- Low ingestion hazard.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- None

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

- powder
- Foam
- Water
- Water spray
- Carbon dioxide (CO2)

Unsuitable extinguishing media

- None known.

5.2 Special hazards arising from the substance or mixture

- Combustible material
- In a fire, the polymer melts, producing droplets which may propagate fire.
- Once started, a fire will tend to self extinguish (see section 9).
- Heating can release hazardous gases.

5.3 Advice for firefighters

Special protective equipment for firefighters

- In the event of fire, wear self-contained breathing apparatus.
- Fire fighters must wear fire resistant personnel protective equipment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel

- Refer to protective measures listed in sections 7 and 8.

Advice for emergency responders

- Sweep up to prevent slipping hazard.
- Avoid dust formation.
- Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

- Should not be released into the environment.
- The product should not be allowed to enter drains, water courses or the soil.

6.3 Methods and materials for containment and cleaning up

- Sweep up or vacuum up spillage and collect in suitable container for disposal.
- Avoid dust formation.
- Keep in properly labelled containers.
- Keep in suitable, closed containers for disposal.
- Treat recovered material as described in the section "Disposal considerations".

6.4 Reference to other sections

- Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Take measures to prevent the build up of electrostatic charge.
- Ensure all equipment is electrically grounded before beginning transfer operations.
- Use only equipment and materials which are compatible with the product.
- To avoid thermal decomposition, do not overheat.

Hygiene measures

- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

- Keep container tightly closed.
- Keep away from heat and sources of ignition.
- Keep away from open flames, hot surfaces and sources of ignition.
- To avoid thermal decomposition, do not overheat.
- Avoid dust formation.
- Do not smoke.
- Refer to protective measures listed in sections 7 and 8.

7.3 Specific end use(s)

- For further information, please contact:
- Supplier

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with national occupational exposure limits

Components	Value type	Value	Basis
Mineral Filler	PC-TWA	5 mg/m3	Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.
	Form of exposure : Total dust		
Titanium oxide	PC-TWA	8 mg/m3	Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.
	Form of exposure : Total dust G2B - Possibly carcinogenic to humans		

Components with other occupational exposure limits

Components	Value type	Value	Basis
Particles (insoluble or poorly soluble) not otherwise specified	TWA	10 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
	Form of exposure : Inhalable particulate matter		
Particles (insoluble or poorly soluble) not otherwise specified	TWA	3 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
	Form of exposure : Respirable particulate matter		
Mineral Filler	TWA	1 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
	Form of exposure : Inhalable particulate matter		

Titanium oxide	TWA	2.5 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
	Form of exposure : Respirable particulate matter Expressed as :Titanium dioxide		

8.2 Exposure controls

Control measures

Engineering measures
- Provide local ventilation appropriate to the product decomposition risk (see section 10).
- Provide appropriate exhaust ventilation at places where dust is formed.
- Refer to protective measures listed in sections 7 and 8.

Individual protection measures

Respiratory protection
- When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Use only respiratory protection that conforms to international/ national standards.

Hand protection
- When handling hot material, use heat resistant gloves.

Eye protection
- Safety glasses with side-shields
- Dust proof goggles, if dusty.

Skin and body protection
- Long sleeved clothing

Hygiene measures
- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

Protective measures
- When using do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	solid
Form	pellets
Colour	white
Odour	odourless
Odour Threshold	No data available
Melting point/freezing point	Melting point/ range: 325 °C
Initial boiling point and boiling range	Boiling point/boiling range: Not applicable
Flammability (solid, gas)	May form combustible dust concentrations in air, The product is not flammable.
Flammability (liquids)	No data available
Flammability/Explosive limit	No data available

Flash point	Not applicable
Auto-ignition temperature	No data available
Decomposition temperature	402 °C
pH	Not applicable
Viscosity	No data available
Solubility	Water solubility: negligible
Partition coefficient: n-octanol/water	Not applicable
Vapour pressure	Not applicable
Density	No data available
Relative density	No data available
Relative vapor density	Not applicable
Particle characteristics	No data available
Evaporation rate (Butylacetate = 1)	No data available

9.2 Other information No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- No dangerous reaction known under conditions of normal use.

polymerisation

- Hazardous polymerisation does not occur.

10.4 Conditions to avoid

- Avoid accumulations of molten masses of Amodel in excess of 50 lbs (22.5 kilograms), which may result in excessive pressure buildup from thermal degradation of the product.
- Heat, flames and sparks.
- To avoid thermal decomposition, do not overheat.
- Avoid dust formation.
- The normal temperature for processing this resin exceeds the decomposition and/or ignition temperature of some other polymeric resins, such as polyacetal, polyvinyl chloride (PVC), polypropylene, etc. If PVC or any other resin with a decomposition temperature below 371°C / 700°F is molded or handled in your equipment, these materials can rapidly decompose and/or react with this resin at the temperatures used to process this resin. Inadvertent contamination of this resin with these materials from the material handling system or other equipment can result in a rapid, possibly violent release of decomposition fumes, when the contaminated material is brought to processing temperature. To avoid, thoroughly clean molding and other processing equipment prior to changeover and prevent cross contamination of material handling systems.

10.5 Incompatible materials

- Polymeric resins

10.6 Hazardous decomposition products

- Carbon monoxide
- Ammonia
- Aldehydes
- Nitriles
- Nitrogen oxides (NOx)
- The release of other hazardous decomposition products is possible.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity	No data available
Acute inhalation toxicity	No data available
Acute dermal toxicity	No data available
Acute toxicity (other routes of administration)	No data available
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory or skin sensitisation	No data available

Mutagenicity

Genotoxicity in vitro	No data available
Genotoxicity in vivo	No data available
Carcinogenicity	No data available

Toxicity for reproduction and development

Toxicity to reproduction/Fertility	No data available
Developmental Toxicity/Teratogenicity	No data available

STOT

STOT - single exposure	No data available
STOT - repeated exposure	No data available
Experience with human exposure	No data available
Aspiration toxicity	No data available

Further information

Because the components are encapsulated in the resin and may not be bioavailable in the body, they may not exert the above mentioned health effects. Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

Mineral Filler	By analogy - 96 h : - Oncorhynchus mykiss (rainbow trout) static test Method: OECD Test Guideline 203 Not harmful to fish (LC/LL50 > 100 mg/L) Unpublished reports
Titanium oxide	No toxicity at the limit of solubility Expert judgement and weight of evidence determination.

Acute toxicity to daphnia and other aquatic invertebrates

Mineral Filler	By analogy - 48 h : - Daphnia magna (Water flea) static test Method: OECD Test Guideline 202 Not harmful to aquatic invertebrates. (EC/EL50 > 100 mg/L) Unpublished reports
Titanium oxide	No toxicity at the limit of solubility Expert judgement and weight of evidence determination.

Toxicity to aquatic plants

Mineral Filler	By analogy - 72 h : - Desmodesmus subspicatus (green algae) static test Method: OECD Test Guideline 201 Not harmful to algae (EC/EL50 > 100 mg/L) Unpublished reports By analogy - 72 h : - Desmodesmus subspicatus (green algae) static test Method: OECD Test Guideline 201 No adverse chronic effect observed up to and including the threshold of 1 mg/L. Unpublished reports
Titanium oxide	No toxicity at the limit of solubility Expert judgement and weight of evidence determination.

Toxicity to microorganisms

Titanium oxide	EC50 - 3 h : > 10,000 mg/l - activated sludge Method: OECD Test Guideline 209 Unpublished reports

Chronic toxicity to fish

Titanium oxide	No toxicity at the limit of solubility Expert judgement and weight of evidence determination.

Chronic toxicity to daphnia and other aquatic invertebrates

Titanium oxide	No toxicity at the limit of solubility Expert judgement and weight of evidence determination.

12.2 Persistence and degradability

Abiotic degradation	No data available
Physical- and photo-chemical elimination	No data available

Biodegradation

Biodegradability

Mineral Filler	Not applicable (inorganic substance)
Titanium oxide	Not applicable (inorganic substance)

Degradability assessment

Mineral Filler	The product is not considered to be rapidly transformed in the environment

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water	No data available

Bioconcentration factor (BCF)

Polyphthalamide	Not bioaccumulable. Internal evaluation.
Mineral Filler	Not applicable (inorganic substance)
Titanium oxide	Species: Oncorhynchus mykiss (rainbow trout) Bioconcentration factor (BCF): 200 - 352 Exposure time: 14 Days Concentration: 0.1 mg/l Not potentially bioaccumulable Published data Species: Oncorhynchus mykiss (rainbow trout) Bioconcentration factor (BCF): 43 - 67 Exposure time: 14 Days Concentration: 0.5 mg/l Not potentially bioaccumulable Published data

Species: Oncorhynchus mykiss (rainbow trout)
Bioconcentration factor (BCF): 19 - 34
Exposure time: 14 Days
Concentration: 1 mg/l
Not potentially bioaccumulable
Published data

12.4 Mobility in soil

Adsorption potential (Koc) No data available

Known distribution to environmental compartments

Polyphthalamide	Ultimate destination of the product : Soil
	Sediment

12.5 Results of PBT and vPvB assessment

Mineral Filler	Not applicable (inorganic substance)
Titanium oxide	Not applicable (inorganic substance)

12.6 Other adverse effects

Ecotoxicity assessment

Short-term (acute) aquatic hazard

Polyphthalamide	Internal evaluation. The product does not have any known adverse effects on the aquatic organisms tested
Mineral Filler	Not harmful to aquatic life (LC/LL50, EC/EL50 > 100 mg/L)
Titanium oxide	No toxicity at the limit of solubility

Long-term (chronic) aquatic hazard

Mineral Filler	Not classified due to data which are conclusive although insufficient for classification.
Titanium oxide	No toxicity at the limit of solubility

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- In accordance with local and national regulations.
- Waste characterizations and compliance with applicable laws and regulations are the responsiblity of the waste generator.
- Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.
- Can be landfilled, when in compliance with local regulations.

- Do not dispose of waste product into drains or watercourses.

Advice on cleaning and disposal of packaging

- Empty containers.
- Dispose of as unused product.
- For unused and uncontaminated product, the preferred options include sending to a licensed, permitted: recycler,

reclaimer, incinerator or other thermal destruction device or industrial landfill.

SECTION 14: Transport information

CN_DG
not regulated

IMDG
not regulated

IATA
not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transport regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Following last version of regulations are applicable for the chemical classification, SDS and label:

- Specification for classification and labelling of chemicals, GB 30000 series standard
- General rules for preparation of precautionary label for chemicals, GB 15258
- Safety data sheet for chemical products—Content and order of sections, GB/T 16483
- GB/T 17519 Guidance on the compilation of safety data sheet for chemical products
- Decree No. 591 of the State Council of the People's Republic of China:Regulations on the Control over Safety of Hazardous Chemicals
- List of dangerous goods GB 12268
- Classification and code of dangerous goods GB 6944

Other regulations

- Law on the Prevention and Control of Occupational Diseases

Notification status

Inventory Information	Status
United States TSCA Inventory	- Listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australian Inventory of Industrial Chemicals (AIIC)	- One or more components not listed on inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- In compliance with the inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- In compliance with the inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
EU. European Registration, Evaluation, Authorization and Restriction of Chemical (REACH)	- When purchased from a Syensqo legal entity based in the EEA (""European" "Economic Area""), this product is compliant with the registration"

	provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.
Taiwan. Chemical Substance Inventory (TCSI)	- Listed on Inventory

SECTION 16: Other information

Full text of H-Statements

- H412: Harmful to aquatic life with long lasting effects.

Key or legend to abbreviations and acronyms used in the safety data sheet

- PC-TWA: Permissible concentration - time weighted average
- TWA: 8-hour, time-weighted average
- ADR: European Agreement on International Carriage of Dangerous Goods by Road.
- ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
- RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
- IATA: International Air Transport Association.
- ICAO-TI: Technical Instructions for Safe Transport of Dangerous Goods by Air.
- IMDG: International Maritime Dangerous Goods.
- TWA: Time weighted average
- ATE: Estimated value of acute toxicity
- EC: European Community number
- CAS: Chemical Abstracts Service.
- LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
- LC50: Substance concentration causing 50% (half) death in the test animals group.
- EC50: Effective Concentration of the substance causing the maximum of 50%.
- PBT: Persistent, Bioaccumulative and Toxic substance.
- vPvB: Very Persistent and Very Bioaccumulative.
- GHS/CLP/SEA: Classification, labeling, packaging regulation
- DNEL: Derived No Effect Level
- PNEC: Predicted No Effect Concentration
- STOT: Specific Target Organ Toxicity

Not all acronyms listed above are referenced in this SDS.

Further information

- Distribute new edition to clients

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. The information exclusively relates to the designated product in its unaltered state. Safety and health hazards may change if such product is used in combination with other materials or in any other manufacturing process. Users are responsible for compliance with all regulations linked to product related activities, and to use the products in accordance with technical instructions given by Syensqo, if any.