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29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : Polyclar™ VT beverage clarifier
 ™ Trademark, Ashland or its subsidiaries, registered in various countries

Substance name POLYVINYL POLYPYRROLIDONE

Substance No.
 CAS-No. 9003-39-8

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

Recommended use : Pharmaceutical

<p>Details of the supplier of the safety data sheet Ashland P.O. Box 2219 Columbus, OH 43216 United States of America (USA) 1-614-790-3333</p> <p>EHSProductSafety@ashland.com</p>	<p>Emergency telephone number 1-800-ASHLAND (1-800-274-5263)</p> <p>Regulatory information 1-614-790-3333 (customer service)</p> <p>Product Information 1-614-790-3333</p>
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SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Combustible Dust :

GHS label elements

Signal Word : Warning

Hazard Statements : May form combustible dust concentrations in air.

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Precautionary Statements : **Prevention:**
Keep dust/air mixtures away from ignition sources.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance
Chemical nature : organic

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)
PYRROLIDONE 2	616-45-5	Eye Irrit. 2A; H319 Repr. 1B; H360	0.10

SECTION 4. FIRST AID MEASURES

General advice : No hazards which require special first aid measures.

If inhaled : If breathed in, move person into fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.

In case of eye contact : Remove contact lenses.
Protect unharmed eye.

If swallowed : Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : The most important known symptoms and effects are described in the labelling (see Section 2.2) and/or Section 11.



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Notes to physician : No hazards which require special first aid measures.


SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
- Specific hazards during firefighting : Organic dusts at sufficient concentration can form explosive mixtures in air.
Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Carbon dioxide (CO₂)
Carbon monoxide
Nitrogen oxides (NO_x)
- Specific extinguishing methods :

Product is compatible with standard fire-fighting agents.
- Further information : Standard procedure for chemical fires.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Avoid dust formation.
Avoid breathing dust.
Material can create slippery conditions.
Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.
- Methods and materials for containment and cleaning up : Pick up and arrange disposal without creating dust.
Keep in suitable, closed containers for disposal.
- Other information : Comply with all applicable federal, state, and local regulations.

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SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Take measures to prevent the build up of electrostatic charge. Provide appropriate exhaust ventilation at places where dust is formed.

Advice on safe handling : Avoid dust formation.
 Ensure all equipment is electrically grounded and bonded before beginning transfer operations.
 The material can accumulate static charge and can therefore cause electrical ignition of flammable atmospheres.
 Smoking, eating and drinking should be prohibited in the application area.
 For personal protection see section 8.
 Maintain good housekeeping. Do not permit dust layers to accumulate, for example, on floors, ledges, and equipment, in order to avoid any potential for dust explosion hazards.

For further guidance on prevention of dust explosions, refer to National Fire Protection Association (NFPA) 654: "Standard for the Prevention of Fire and Dust Explosions, from the Manufacturing, Processing and Handling of Combustible Particulate Solids".

Conditions for safe storage : No smoking.

Materials to avoid : No materials to be especially mentioned.

Further information on storage stability : Keep in a dry place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Hazardous components without workplace control parameters

Components	CAS-No.
PYRROLIDONE 2	616-45-5

Engineering measures : Provide appropriate exhaust ventilation at places where dust is formed.
 General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions



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exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

For exposures to dust, utilize the exposure limits for Particulates (insoluble) Not Otherwise Classified (PNOC). ACGIH TWA - 10 mg/m³ inhalable fraction, 3 mg/m³ respirable fraction. OSHA PEL - 15 mg/m³ total dust, 5 mg/m³ respirable fraction.

Personal protective equipment

- Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter within the capabilities of the respirator/filter combination.
Where concentrations are above recommended limits or are unknown, or a cartridge type respirator is not adequate, wear a positive-pressure supplied-air respirator.
- Hand protection
- Material : butyl-rubber
- Break through time : 480 min
- Glove thickness : > 0.5 mm
- Remarks : The exact break through time can be obtained from the protective glove producer and this has to be observed. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Eye protection : Safety glasses
- Skin and body protection : Wear as appropriate:
Safety shoes
Wear resistant gloves (consult your safety equipment supplier).
- Hygiene measures : Avoid breathing dust.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : powder
- Physical state : solid
- Colour : white, off-white

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Odour	: odourless
Odour Threshold	: Not applicable
pH	: 5.0 - 8.0
Melting point/freezing point	: not determined
Boiling point/boiling range	: not determined
Flash point	: Not applicable
Evaporation rate	: Not applicable
Flammability (solid, gas)	: not determined
Upper explosion limit	: Upper explosion limit not determined
Lower explosion limit	: Lower explosion limit not determined
Vapour pressure	: Not applicable
Relative vapour density	: Not applicable
Relative density	: No data available
Density	: 1 g/cm ³ (20 °C)
Solubility(ies)	
Water solubility	: insoluble
Solubility in other solvents	: No data available
Partition coefficient: n- octanol/water	: not determined
Thermal decomposition	: No data available
Viscosity	
Viscosity, dynamic	: Not applicable
Viscosity, kinematic	: Not applicable
Oxidizing properties	: Not applicable

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SECTION 10. STABILITY AND REACTIVITY

- Reactivity : No decomposition if stored and applied as directed.
- Chemical stability : Stable under recommended storage conditions.
- Possibility of hazardous reactions : Dust may form explosive mixture in air.
- Conditions to avoid : Keep away from heat, flame, sparks and other ignition sources.
- Incompatible materials : reactive metals such as aluminum and magnesium
Strong oxidizing agents
strong reducing agents
- Hazardous decomposition products : Carbon monoxide
Carbon dioxide (CO₂)
Nitrogen oxides (NO_x)

SECTION 11. TOXICOLOGICAL INFORMATION

- Information on likely routes of exposure : Inhalation
Skin contact
Eye contact
Ingestion

Acute toxicity

Not classified based on available information.

Components:

PYRROLIDONE 2:

- Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 401
Assessment: Not classified as acutely toxic by ingestion under GHS.
- Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: No adverse effect has been observed in acute dermal toxicity tests.



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Skin corrosion/irritation

Not classified based on available information.

Components:

PYRROLIDONE 2:

Result: No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Remarks: Unlikely to cause eye irritation or injury., Product dust may be irritating to eyes, skin and respiratory system.

Components:

PYRROLIDONE 2:

Result: Irritating to eyes.

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

Components:

PYRROLIDONE 2:

Test Type: Local lymph node assay

Species: Mouse

Assessment: Did not cause sensitisation on laboratory animals.

Method: OECD Test Guideline 429

Germ cell mutagenicity

Not classified based on available information.

Components:

PYRROLIDONE 2:

Genotoxicity in vitro

: Test Type: Ames test

Test species: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

Genotoxicity in vivo

: Test Type: In vivo micronucleus test

Test species: Mouse

Cell type: Bone marrow

Method: OECD Test Guideline 474

Result: negative

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

Components:

PYRROLIDONE 2:



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Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks: No data available

Carcinogenicity:

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : Not classified based on available information.

Long-term (chronic) aquatic hazard : Not classified based on available information.

Components:

PYRROLIDONE 2:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 4,600 - 10,000 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l
Exposure time: 48 h



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Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): > 500 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: DIN 38412

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Chronic Toxicity Value (Daphnia magna (Water flea)):
Estimated 160.2 mg/l
Exposure time: 21 d
Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

Persistence and degradability

Components:

PYRROLIDONE 2:

Biodegradability : Zahn-Wellens Test
Result: Readily biodegradable.
Biodegradation: 98 %
Exposure time: 9 d

No data available

Bioaccumulative potential

Components:

PYRROLIDONE 2:

Partition coefficient: n-octanol/water : log Pow: -0.71 (20 °C)

No data available

Mobility in soil

Components:

No data available

Other adverse effects

No data available

Product:

Additional ecological information : No data available

Components:

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

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General advice : Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.

SECTION 14. TRANSPORT INFORMATION**International transport regulations****REGULATION**

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
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U.S. DOT - ROAD

Not dangerous goods

CFR_RAIL_C

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

TDG_ROAD_C

Not dangerous goods

TDG_RAIL_C

Not dangerous goods

TDG_INWT_C

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods



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INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

MX_DG

Not dangerous goods

*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Marine pollutant	no
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Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

TSCA list

No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Combustible Dust

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations



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Pennsylvania Right To Know

POLYVINYLPOLYPYRROLIDONE	9003-39-8
WATER	7732-18-5

New Jersey Right To Know

POLYVINYLPOLYPYRROLIDONE	9003-39-8
WATER	7732-18-5

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

DSL	: All components of this product are on the Canadian DSL
AICS	: On the inventory, or in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
TCSI	: On the inventory, or in compliance with the inventory
TSCA	: On or in compliance with the active portion of the TSCA inventory

Inventories

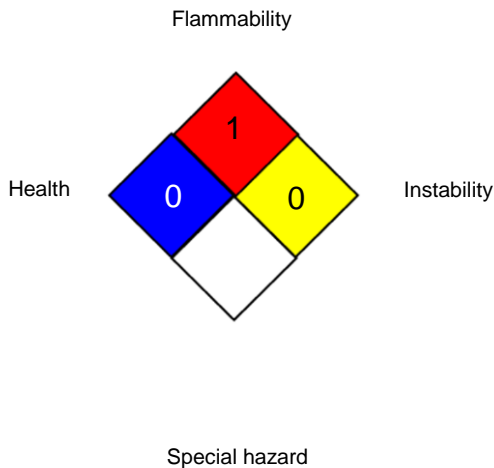
AllC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

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SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	/	0
FLAMMABILITY		1
PHYSICAL HAZARD		0


HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of H-Statements

- H319 Causes serious eye irritation.
- H360 May damage fertility or the unborn child.

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing

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Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

This sds has been prepared by Ashland. (<http://www.ashland.com>)

Sources of key data used to compile the Safety Data Sheet : Ashland internal data including own and sponsored test reports
 European Union Law with content from the Official Journal of the European Union.
 European Chemicals Agency; the EU authority implementing the EU's chemicals legislation for companies.
 The German Water Hazard Classes.
 ReachCentrum; a series of support services to help comply with REACH regulations.
 The European Commission; proposing legislation, administering and implementing EU policies, and enforcing EU law.
 The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.
 Cefic, the European Chemical Industry Council.
 ESIS European Chemical Substances Information System

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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. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is

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not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
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