

SAFETY DATA SHEET

According to EC Regulation 1907/2006 (REACH), Attachment II

Date of issue: 13/09/1994

Last change: 26/02/2016

Reagent for Aquarius Pava

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

1.1. Product identifier : Reagent for Aquarius Pava

Refer to Section 3 for REACH information

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

Use of the Substance/Mixture : Curing Agent

Restrictions on Use : No data available.

1.3 Details of the supplier of the safety data sheet : Pava Resine Srl
Via Dolomiti, 6/1
35018 S. Martino di L. (PD)
Tel +39 049 5953085 Fax +39 049 9460866

Email Address – Technical Information : info@pavaresine.it

Telephone : +39 049 5953085

1.4. Emergency telephone number : Tel Nr. +39 049 5953085

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Acute toxicity - Inhalation Category 4 H332:Harmful if inhaled.

Skin corrosion - Category 1B H314:Causes severe skin burns and eye damage.

Serious Eye Damage - Category 1 H318:Causes serious eye damage.

Skin sensitization - Category 1 H317:May cause an allergic skin reaction.

Chronic aquatic toxicity - Category 3 H412:Harmful to aquatic life with long lasting effects.

2.2. Label elements

Hazard pictograms/symbols



Signal Word: Danger

Hazard Statements:

- H314: Causes severe skin burns and eye damage.
- H317: May cause an allergic skin reaction.
- H332: Harmful if inhaled.
- H412: Harmful to aquatic life with long lasting effects.

Precautionary Statements:

- | | | |
|------------|---|---|
| Prevention | : | P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection. |
| Response | : | P301+P330+P331 :IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 :IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 :IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 :IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 :Immediately call a POISON CENTRE/doctor.
P363 :Wash contaminated clothing before reuse. |
| Storage | : | P405: Store locked up. |
| Disposal | : | P501: Disposal of contents/container to be specified in accordance with regulations. |

2.3 Other Hazards

- Corrosive
- Components of the product may affect the nervous system.
- Severe eye irritant.
- Severe respiratory irritant.
- May cause sensitization by skin contact.

SECTION 3: Composition/information on ingredients

Substance/Mixture : Mixture

Components	EINECS / ELINCS Number	CAS Number	Concentration (Weight)
Benzyl alcohol	202-859-9	100-51-6	> 40%
3-Aminomethyl-3,5,5-trimethyl cyclohexylamine	220-666-8	2855-13-2	< 30 %
Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-, reaction products with bisphenol A diglycidyl ether homopolymer	Not Available	68609-08-5	15% - 40 %

Components	Classification (CLP)	REACH Reg. #
Benzyl alcohol	Acute Tox. Inha 4 ;H332 Acute Tox. Oral 4 ;H302	01-2119492630-3 8-
3-Aminomethyl-3,5,5-trimethyl cyclohexylamine	Acute Tox. Oral 4 ;H302 Skin Corr. 1B ;H314 Skin Sens. 1 ;H317 Acute Tox. Derm 4 ;H312 Aquatic Chronic 3 ;H412	01-2119514687-3 2
Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-, reaction products with bisphenol A diglycidyl ether homopolymer	Skin Corr. 1B ;H314 Skin Sens. 1 ;H317 Aquatic Chronic 3 ;H412	01-2119965165-3 3 (covered by cas 38294-64-3)

If REACH registration numbers do not appear the substance is either exempt from registration, does not meet the minimum volume threshold for registration, or the registration date has not yet come due. Refer to section 16 for full text of each relevant R-phrase and H-phrases.

CHEMICAL FAMILY: Cycloaliphatic Amine

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.
- Eye contact : Hold eyelids apart, initiate and maintain gentle and continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour.
- Skin contact : Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Initiate and maintain continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Cover wound with sterile dressing. Take off contaminated clothing and shoes immediately. NOTE TO PHYSICIANS:

Application of corticosteroid cream has been effective in treating skin irritation.

Ingestion : Do not induce vomiting without medical advice. If a person vomits when lying on his back, place him in the recovery position. Never give anything by mouth to an unconscious person. Prevent aspiration of vomit. Turn victim's head to the side.

Inhalation : If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media : Alcohol-resistant foam. Carbon dioxide (CO₂).
Dry chemical.
Dry sand.
Limestone powder.

Extinguishing media which must not be used for safety reasons. : No data available.

5.2 Special hazards arising from the substance or mixture : Incomplete combustion may form carbon monoxide. May generate ammonia gas. May generate toxic nitrogen oxide gases. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.

5.3 Advice for firefighters : Avoid contact with the skin. A face shield should be worn. Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

Further information : Do not allow run-off from fire fighting to enter drains or water courses., Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures : Wear suitable protective clothing, gloves and eye/face protection. Use self-contained breathing apparatus and chemically protective clothing. Evacuate personnel to safe areas.

6.2 Environmental : Construct a dike to prevent spreading.

precautions

6.3 Methods and material for containment and cleaning up : Contact Air Products' Emergency Response Center for advice. Approach suspected leak areas with caution. Place in appropriate chemical waste container.

Additional advice : Open enclosed spaces to outside atmosphere. If possible, stop flow of product.

6.4 Reference to other sections : For more information refer to Sections 8 & 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas. Avoid breathing vapors and/or aerosols. Avoid contact with skin and eyes. Avoid contact with eyes. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Use personal protective equipment. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

Do not store near acids. Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3 Specific end use(s)

Refer to section 1 or the extended SDS if applicable

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

If applicable, refer to the extended section of the SDS for further information on CSA.

8.2 Exposure controls

Engineering measures

Provide readily accessible eye wash stations and safety showers.
Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

Personal protective equipment

Respiratory protection : Wear appropriate respirator when ventilation is inadequate.

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Butyl-rubber
Nitrile rubber.
Neoprene gloves.

	Impervious gloves. PVC disposable gloves
Eye/face Protection	: Full face shield with goggles underneath. Chemical resistant goggles must be worn.
Skin and body protection	: Impervious clothing. Full rubber suit (rain gear). Rubber or plastic boots.
Special instructions for protection and hygiene	: Discard contaminated leather articles. Wash hands at the end of each workshift and before eating, smoking or using the toilet. Provide readily accessible eye wash stations and safety showers.
Environmental Exposure Controls	: If applicable, refer to the extended section of the SDS for further information on CSA.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

(a/b) Physical state/Colour	: Liquid. Light yellow.
(c) Odour	: Ammoniacal.
(d) Density	: 1.03 g/cm ³ (64.301 lb/ft ³) at 21 °C (70 °F)
(e) Relative Density	: 1.03 (water = 1)
(f) Melting point / freezing point	: No data available.
(g) Boiling point/range	: 401 °F (205 °C)
(h) Vapor pressure	: < 10.34 mmHg at 70 °F (21 °C)
(i) Water solubility	: < 0.1 g/l
(j) Partition coefficient (n-octanol/water)	: No data available.
(k) pH	: 9
(l) Viscosity	: No data available.
(m) Particle characteristics	: No data available.
(n) Lower and upper explosion / flammability limits	: Not applicable.

(o) Flash point	: 205 °F (96 °C)
(p) Autoignition temperature	: No data available.
(q) Decomposition temperature	: No data available.
9.2. Other information	
Explosive properties	: No data available.
Oxidizing properties	: No data available.
Odor threshold	: No data available.
Evaporation rate	: No data available.
Flammability (solid, gas)	: Not applicable.
Relative vapor density	: Not applicable.

SECTION 10: Stability and reactivity

10.1 Reactivity	: Refer to possibility of hazardous reactions and/or incompatible materials sections.
10.2. Chemical stability	: Stable under normal conditions.
10.3. Possibility of hazardous reactions	: No data available.
10.4. Conditions to avoid	: No data available.
10.5. Incompatible materials	: Reactive metals (e.g. sodium, calcium, zinc etc.). Materials reactive with hydroxyl compounds. Organic acids (i.e. acetic acid, citric acid etc.). Mineral acids. Sodium hypochlorite. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Oxidizing agents.
10.6 Hazardous decomposition products	: Nitric acid. Ammonia Nitrogen oxides (NO _x). Nitrogen oxide can react with water vapors to form corrosive nitric acid. Carbon monoxide.

Carbon dioxide (CO₂).
Aldehydes
Flammable hydrocarbon fragments.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Likely routes of exposure

- Effects on Eye : Corneal edema may give rise to a perception of "blue haze" or "fog" around lights. Exposed individuals may see rings around bright lights. This effect is temporary and has no known residual effect. Product vapor can cause glaucopsia (corneal edema) when absorbed into the tissue of the eye from the atmosphere. Causes eye burns. May cause blindness. Severe eye irritation.
- Effects on Skin : Causes skin burns. If absorbed through the skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties.
- Inhalation Effects : Harmful if inhaled and may cause delayed lung injury. Can cause severe eye, skin and respiratory tract burns. Risk of serious damage to the lungs (by inhalation). May cause nose, throat, and lung irritation. Inhalation of aerosol may cause irritation to the upper respiratory tract. May cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure. Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system.
- Ingestion Effects : If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.
- Symptoms : Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat.

Acute toxicity

- Acute Oral Toxicity : LD50 : 2,369 mg/kg Species : Rat.
- Acute Inhalation Toxicity : No data is available on the product itself.
- Inhalation - Components
Benzyl alcohol LC50 (4 h) : > 4.178 mg/l Species : Rat.
OECD Test Guideline 403
- Acute Dermal Toxicity : LD50 : > 2,000 mg/kg Species : Rabbit.
Method : Estimated.

Skin corrosion/irritation : Corrosive to the skin of a rabbit.

Serious eye damage/eye irritation : Severe eye irritation. Risk of serious damage to eyes.

Sensitization. : No data available.

Chronic toxicity or effects from long term exposures

Carcinogenicity : No data available.

Reproductive toxicity : No data is available on the product itself.

Germ cell mutagenicity : No data is available on the product itself.

Specific target organ systemic toxicity (single exposure) : Skin. Eyes. Respiratory system. Central nervous system. Eye disease. Skin disorders and Allergies. Asthma. Neurological disorders

Specific target organ systemic toxicity (repeated exposure) : Rats exposed orally to 800 mg/kg benzyl alcohol for thirteen weeks exhibited CNS depression and histopathological changes in the brain, thymus and skeletal muscles. The No Observed Adverse Effect Level (NOAEL) was 400 mg/kg. No evidence of carcinogenicity was seen in a two-year study with rats and mice. This product contains no listed carcinogens according to Directive 67/548/EEC, IARC, ACGIH and/or NTP in concentrations of 0.1 percent or greater. May cause allergic skin reaction.

Aspiration hazard : No data available.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity : No data is available on the product itself.

Toxicity to fish - Components

Benzyl alcohol	LC50 (96 h) : 10 mg/l	Species : Bluegill sunfish (<i>Lepomis macrochirus</i>).
Benzyl alcohol	LC50 (96 h) : 460 mg/l	Species : Fathead minnow (<i>Pimephales promelas</i>).

Toxicity to algae - Components

Benzyl alcohol	IC50 (72 h) : 700 mg/l	Species : Algae.
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Toxicity to other organisms : No data is available on the product itself.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data is available on the product itself.

Bioaccumulation - Components

Benzyl alcohol Low bioaccumulation potential.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

If applicable, refer to the extended section of the SDS for further information on CSA.

12.6 Other adverse effects

No data available.

Effect on the ozone layer

Ozone Depleting Potential : No data available.

Global Warming Potential : No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods : Contact supplier if guidance is required.

Contaminated packaging : Dispose of container and unused contents in accordance with federal, state, and local requirements.

SECTION 14: Transport information

ADR

UN/ID No. : UN2735
Proper shipping name : AMINES, LIQUID, CORROSIVE, N.O.S., (Cycloaliphatic amine, Isophoronediamine (IPD))
Class or Division : 8
Packing group : II
Tunnel Code : (E)

Label(s) : 8
ADR/RID Hazard ID no. : 80
Marine Pollutant : No

IATA

UN/ID No. : UN2735
Proper shipping name : Amines, liquid, corrosive, n.o.s., (Cycloaliphatic amine, Isophoronediamine (IPD))
Class or Division : 8
Packing group : II
Label(s) : 8
Marine Pollutant : No

IMDG

UN/ID No. : UN2735
Proper shipping name : AMINES, LIQUID, CORROSIVE, N.O.S., (Cycloaliphatic amine, Isophoronediamine (IPD))
Class or Division : 8
Packing group : II
Label(s) : 8
Marine Pollutant : No
Segregation Group: : Alkalis

RID

UN/ID No. : UN2735
Proper shipping name : AMINES, LIQUID, CORROSIVE, N.O.S., (Cycloaliphatic amine, Isophoronediamine (IPD))
Class or Division : 8
Packing group : II
Label(s) : 8
Marine Pollutant : No

Further Information

The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact an Air Products customer service representative.

SECTION 15: Regulatory information

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

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory.
EU	EINECS	Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer.
Canada	DSL	Included on Inventory.

Australia	AICS	Included on Inventory.
Japan	ENCS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Included on Inventory.

WGK Identification Number: : 2 - water endangering

15.2 Chemical safety assessment

Applicable EXPOSURE SCENARIOS are available at the following link: www.airproducts.com/esds/2855-13-2

SECTION 16: Other information

Ensure all national/local regulations are observed.

Hazard Statements:

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H332 Harmful if inhaled.

H412 Harmful to aquatic life with long lasting effects.

Indication of Method:

Acute toxicity Category 4 Harmful if inhaled. Calculation method

Skin corrosion Category 1B Causes severe skin burns and eye damage. Calculation method

Serious Eye Damage Category 1 Causes serious eye damage. Calculation method

Skin sensitization Category 1 May cause an allergic skin reaction. Calculation method

Chronic aquatic toxicity Category 3 Harmful to aquatic life with long lasting effects. Calculation method

Abbreviations and acronyms:

ATE - Acute Toxicity Estimate

CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006

EINECS - European Inventory of Existing Commercial Chemical Substances

ELINCS - European List of Notified Chemical Substances

CAS# - Chemical Abstract Service number

PPE - Personal Protection Equipment

Kow - octanol-water partition coefficient

DNEL - Derived No Effect Level

LC50 - Lethal Concentration to 50 % of a test population

LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
NOEC - No Observed Effect Concentration
PNEC - Predicted No Effect Concentration
RMM - Risk Management Measure
OEL - Occupational Exposure Limit
PBT - Persistent, Bioaccumulative and Toxic
vPvB - Very Persistent and Very Bioaccumulative
STOT - Specific Target Organ Toxicity
CSA - Chemical Safety Assessment
EN - European Standard
UN - United Nations
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
IATA - International Air Transport Association
IMDG - International Maritime Dangerous Goods
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
WGK - Water Hazard Class

Key literature references and sources for data:
ECHA - Guidance on the compilation of safety data sheets
ECHA - Guidance on the application of the CLP Criteria
ARIEL database
