

SAFETY DATA SHEET**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier** PAP-220 Alkylpyridines Mixture**Synonyms:** Poly Alkyl Pyridines; Pyridine, alkyl derivatives**Chemical Abstracts Registry No:** 68391-11-7**REACH Registration Number:** Not applicable.**1.2. Relevant identified uses of the substance or mixture and uses advised against**

chemical intermediate

1.3. Details of the supplier of the safety data sheetVertellus Integrated Pyridines LLC
201 N. Illinois Street, Suite 1800
Indianapolis, Indiana 46204 USA
1-317-247-8141**e-mail Address:** sds@vertellus.com**1.4. Emergency telephone number****Vertellus:** 1-317-247-8141**CHEMTREC (USA):** 1-800-424-9300 (collect calls accepted)**CHEMTREC (International):** 1-703-527-3887 (collect calls accepted)**NRCC (China):** +86 532 83889090**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture**

(According to Regulation (EC) No 1272/2008)

Skin Corrosion/Irritation Category 1C
Serious Eye Damage/Eye Irritation Category 1
Carcinogenicity Category 1B
Acute Toxicity Oral Category 4
Flammable Liquids Category 4 (*US GHS Only*)

(According to Directive 67/548/EEC)

Symbol: Carc. Cat. 2, C, Xn
Risk Phrases: R22: Harmful if swallowed.
R45: May cause cancer.
R34: Causes burns.
Safety Phrases: S53: Avoid exposure - obtain special instruction before use.
S45: In case of accident or if you feel unwell, seek medical advice immediately.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.**2.2. Label elements****Hazard Symbols (Pictogram):****Signal Word:**

Danger

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Hazard Precautions:	H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage. H350 - May cause cancer.
Prevention Precautionary Statements:	P201 - Obtain special instructions before use. P270 - Do not eat, drink or smoke when using this product. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P281 - Use personal protective equipment as required.
First Aid Precautionary Statements:	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. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - IF exposed or concerned: Get medical advice/attention. P310 - Immediately call a POISON CENTER or doctor/physician. P363 - Wash contaminated clothing before reuse.

2.3. Other hazards

Other Hazards:	Not applicable.
Mixture Statement:	5-10% of this mixture consists of ingredient(s) of unknown acute toxicity.

SECTION 3: Composition/information on ingredients

3.1. Substances or 3.2. Mixtures

Ingredient	CAS Number	Concentration (weight %)	EC Number	CLP Inventory/ Annex VI	EU DSD Classification (67/548/EEC)	EU CLP Classification (1272/2008)
Pyridine, alkyl derivatives	68391-11-7	88 - 90%	269-929-9	648-029-00-3	Not available.	Note J
Undefined quinolines, indoles, pyrroles and pyrimidines	MIXTURE	5 - 10%	Not listed.	Not listed.	Not available.	Not available.
Quinoline	91-22-5	0 - 0.5%	202-051-6	613-281-00-5	Carc. Cat. 2, Muta. Cat. 3, N, Xi, Xn R45-R68- R51/53- R36/38- R21/22	Aquatic Chronic 2; H411 Acute Tox. 4; H312 Acute Tox. 4; H302 Carc. 1B; H350 Eye Irrit. 2; H319 Muta. 2; H341 Skin Irrit. 2; H315

NOTE: See Section 8 for exposure limit data for these ingredients. See Section 15 for trade secret information (where applicable). See Section 16 for the full text of the R-phrases above.

SECTION 4: First aid measures

4.1. Description of first aid measures

Skin Contact:	Wash exposed area twice with soap and water. The exposed area should be examined by medical personnel if irritation or pain persists after the area has been washed.
Eye Contact:	Rinse eyes immediately with large amounts of water for at least 15 minutes, occasionally lifting the eyelids. GET MEDICAL ATTENTION.

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Inhalation:	Remove from exposure area to fresh air immediately. If breathing has stopped, give artificial respiration. Keep affected person warm and at rest. GET MEDICAL ATTENTION.
Ingestion:	Do NOT induce vomiting, this material is corrosive. Give oxygen if respiration is shallow. GET MEDICAL ATTENTION. Do not give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Acute:	Alkylpyridine derivatives are generally corrosive or strongly irritating to skin, eyes and mucous membranes. Vapors may be irritating to the respiratory tract. These materials may be readily absorbed through the skin and exhibit varying degrees of toxicity depending on their chemical structures. Extended exposure (e.g., from saturated clothing) may lead to severe skin irritation and/or systemic poisoning. Symptoms may include headache, dizziness, nausea, nervousness, weakness, narcosis, sleeplessness, loss of appetite and possibly loss of consciousness. Symptoms seen after ingestion or inhalation overexposures are expected to be essentially the same as those listed previously. Ingestion is not likely to be a primary route of exposure.
Delayed Effects:	Due to the corrosive nature of this material, burns are likely to occur. Ongoing contact with contaminated clothing may cause burns to appear after an extended exposure period.

4.3. Indication of any immediate medical attention and special treatment needed

Note to Physician:	No specific indications. Treatment should be based on the judgment of the physician in response to the reactions of the patient.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Appropriate Extinguishing Media:	Water fog, foam, carbon dioxide, dry chemical
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5.2. Special hazards arising from the substance or mixture

Hazardous Products of Combustion:	Toxic fumes may be released upon thermal decomposition (cyanides, nitrogen oxides, carbon monoxide).
Potential for Dust Explosion:	Not applicable.
Special Flammability Hazards:	Severe explosion hazard in the form of vapor (within flammability limits) when exposed to heat, flame or static discharge. Alkylpyridines liquid conductivity testing (BS 5958, ASTM D2624) results indicate a result of 12,000,000 pS/m. A liquid whose conductivity is greater than 10,000 pS/m is generally considered to be conductive.

5.3. Advice for firefighters

Basic Fire Fighting Guidance:	Wear self-contained breathing apparatus and full protective clothing (i.e., Bunker gear). Skin and eye contact should be avoided. Normal fire fighting procedures may be used.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuation Procedures:	Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
Special Instructions:	See Section 8 for personal protective equipment recommendations. Remove all contaminated clothing to prevent further absorption. Decontaminate affected personnel using the first aid procedures in Section 4. Leather shoes that have been saturated must be discarded.

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6.2. Environmental precautions

Prevent releases to soils, drains, sewers and waterways.

6.3. Methods and material for containment and cleaning up

Remove all ignition sources. Ventilate the area of spill or leak. Wear protective equipment during clean-up. For small spills, use suitable absorbent material and collect for later disposal. For large spills, the area may require diking to contain the spill. Material can then be collected (e.g., suction) for later disposal. After collection of material, flush area with water. Dispose of the material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable federal, state or local laws.

6.4. Reference to other sections

Refer to section 8 for information on selecting personal protective equipment. Refer to section 13 for information on spilled product, absorbent and clean up material disposal instructions.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for Unique Hazards: Not applicable.

Practices to Minimize Risk: Wear appropriate protective equipment when performing maintenance on contaminated equipment. Wash hands thoroughly before eating or smoking after handling this material. Do not eat, drink or smoke in work areas. Prevent contact with incompatible materials. Avoid spills and keep away from drains. Handle in a manner to prevent generation of aerosols, vapors or dust clouds.

Special Handling Equipment: Not applicable.

7.2. Conditions for safe storage, including any incompatibilities

Storage Precautions & Recommendations: Maintain dry, ventilated conditions for storage. Protect containers against physical damage. Outside or detached storage is preferable. Inside storage should be in standard flammable liquids storage room or cabinet. Keep away from strong acids and oxidizing agents. Should be periodically inspected.

Dangerous Incompatibility Reactions: Avoid contact with strong acids and oxidizing agents.

Incompatibilities with Materials of Construction: May cause some forms of plastics and rubbers to deteriorate.

7.3. Specific end use(s)

If a chemical safety assessment has been completed an exposure scenario is attached as an annex to this Safety Data Sheet. Refer to this annex for the specific exposure scenario control parameters for uses identified in subsection 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Country	Occupational Exposure Limit
Latvia	0.1 mg/m ³ as 8-hour time-weighted average (Quinoline)
Air Monitoring Method:	No data available.

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8.2. Exposure controls

Also see the annex to this SDS (if applicable) for specific exposure scenario controls.

Other Engineering Controls:	All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided.
Personal Protective Equipment:	Use NIOSH approved chemical cartridge-respirator or supplied air breathing equipment. Chemical goggles should be worn at all times; use face shields as conditions warrant. Impervious clothing and boots. Neoprene or PVC-coated gloves.
Respirator Caution:	Observe OSHA regulations for respirator use (29 CFR 1910.134). Air-purifying respirators must not be used in oxygen-deficient atmospheres.
Thermal Hazards:	Not applicable.
Environmental Exposure Controls:	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance, State & Odor (ambient temperature):	Yellow to dark brown liquid with a strong, disagreeable odor.		
Molecular Formula:	mixture	Molecular Weight:	No data available.
Vapor Pressure:	No data available.	Evaporation Rate:	Not determined
Specific Gravity or Density:	0.970 g/mL	Vapor Density (air = 1):	No data available.
Boiling Point:	185 - 300 °C	Freezing / Melting Point:	No data available.
Solubility in Water:	slightly soluble	Octanol / Water Coefficient:	No data available.
pH:	No data available (basic)	Odor Threshold:	No data available.
Viscosity:	No data available.	Autoignition Temperature:	No data available.
Flash Point and Method:	162°F (72°C) Tag Closed Cup	Flammable Limits:	No data available.
Flammability (solid, gas):	Not applicable.	Decomposition Temperature:	No data available.
Explosive Properties:	No data available.	Oxidizing Properties:	No data available.

9.2. Other information

Not applicable.

SECTION 10: Stability and reactivity

10.1. Reactivity

Not classified as dangerously reactive.



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<u>10.2. Chemical stability</u>	Stable
<u>10.3. Possibility of hazardous reactions</u>	Will not occur.
<u>10.4. Conditions to avoid</u>	Avoid static discharge and uncontrolled exposure to high temperatures.
<u>10.5. Incompatible materials</u>	Avoid contact with strong acids and oxidizing agents.
<u>10.6. Hazardous decomposition products</u>	Have not been determined.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Oral LD ₅₀ :	LD ₅₀ (rat) = 737 mg/kg	PAP-220 Alkylpyridines
Acute Dermal LD ₅₀ :	LD ₅₀ (rabbit) > 1940 mg/kg	PAP-220 Alkylpyridines
Acute Inhalation LC ₅₀ :	No data available.	
Skin Irritation:	Corrosive to skin.	
Eye Irritation:	Corrosive to eyes.	
Skin Sensitization:	No data available.	
Mutagenicity:	No data available.	
Reproductive / Developmental Toxicity:	No data available.	
Carcinogenicity:	Contains trace amounts of quinoline as an impurity, which has been classified by the European Union as a Category 1B carcinogen.	
Target Organs:	Prolonged or repeated overexposure may lead to liver, kidney or central nervous system effects.	
Primary Route(s) of Exposure:	Skin contact and absorption, eye contact, and inhalation. Ingestion is not likely to be a primary route of exposure.	
Most important symptoms and effects, both acute and delayed	Alkylpyridine derivatives are generally corrosive or strongly irritating to skin, eyes and mucous membranes. Vapors may be irritating to the respiratory tract. These materials may be readily absorbed through the skin and exhibit varying degrees of toxicity depending on their chemical structures. Extended exposure (e.g., from saturated clothing) may lead to severe skin irritation and/or systemic poisoning. Symptoms may include headache, dizziness, nausea, nervousness, weakness, narcosis, sleeplessness, loss of appetite and possibly loss of consciousness. Symptoms seen after ingestion or inhalation overexposures are expected to be essentially the same as those listed previously. Ingestion is not likely to be a primary route of exposure. Delayed Effects: Due to the corrosive nature of this material, burns are likely to occur. Ongoing contact with contaminated clothing may cause burns to appear after an extended exposure period.	
Additive or Synergistic effects:	None known.	

SECTION 12: Ecological information

<u>12.1. Toxicity</u>	No data available.
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<u>12.2. Persistence and degradability</u>	No data available
<u>12.3. Bioaccumulative potential</u>	No data available
<u>12.4. Mobility in soil</u>	No data available
<u>12.5. Results of PBT and vPvB assessment</u>	No data available.
<u>12.6. Other adverse effects</u>	No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

US EPA Waste Number:	Non-Hazardous
Waste Classification: (per US regulations)	The waste may be classified as "special" or hazardous per State regulations.
Waste Disposal:	NOTE: Generator is responsible for proper waste characterization. State hazardous waste regulations may differ substantially from federal regulations. Dispose of this material responsibly, and in accordance with standard practice for disposal of potentially hazardous materials as required by applicable international, national, regional, state or local laws, and environmental protection duty of care principles. Do NOT dump into any sewers, on the ground, or into any body of water. For disposal within the EC, the appropriate classification code according to the European Community List of Wastes should be used. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: Transport information

The following information applies to all shipping modes (DOT/IATA/ICAO/IMDG/ADR/RID/ADN), unless otherwise indicated:

14.1. UN number	UN3267	14.2. UN proper shipping name	Corrosive liquid, basic, organic, n.o.s. (Poly Alkyl Pyridines)
14.3. Transport hazard class(es)	8	14.4. Packing group	PG II
14.5. Environmental hazards	Not applicable		
14.6. Special precautions for user	No data available.		
NA Emergency Guidebook Numbers:	153	IMDG EMS:	S-B; F-A
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code			Category Y

SECTION 15: Regulatory information

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

Chemical Inventory Lists:

TSCA:	Listed	EINECS:	269-929-9
Canada(DSL/NDSL):	DSL	Japan:	(9)-2583
Korea:	KE-29931	Australia:	Listed
China:	Listed	Philippines:	Listed
Taiwan:	Listed	New Zealand:	Listed

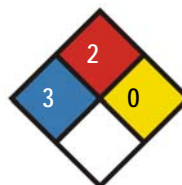
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- WHMIS Classification:** Class E: Corrosive Material.
 Class B, Division 3: Combustible Liquid.
 Class D, Division 1, Subdivision A: Very Toxic Material
 Class D, Division 2, Subdivision B: Toxic Material.
- SARA 313:** All known components less than de minimis levels.
- Reportable Quantities:** May contain quinoline (RQ = 5000 lbs.) at levels up to 0.5%.
- State Regulations:**
- This product contains chemicals known to the State of California to cause cancer (*Quinoline*).
 - This product contains chemicals listed on the Massachusetts Substance List for Right-to-Know Law (*Quinoline*).
 - This product contains chemicals listed on the Minnesota Hazardous Substances List (*Quinoline*).
 - This product contains chemicals listed on the New Jersey Department of Health Hazard Right-to-Know Program Hazardous Substance List (*Quinoline*).
 - This product contains chemicals listed on the Pennsylvania Department of Labor and Industry Hazardous Substance List (*Quinoline*).
 - This product contains chemicals listed on the New York State List of Hazardous Substances (*Quinoline*).
- Other Regulatory Listings:**
- Note J applies to pyridine, alkyl derivatives (or mixtures containing this substance) under directive (EC) 1272/2008, "The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0.1 % w/w benzene (EINECS No 200-753-7). This note applies only to certain complex coal- and oil derived substances in Part 3."

HMIS:

HEALTH	3*
FLAMMABILITY	2
REACTIVITY	0

NFPA:



15.2. Chemical safety assessment

Not applicable.

SECTION 16: Other information

- Full text of R phrases in Section 3:**
- R45: May cause cancer.
 R68: Possible risk of irreversible effects.
 R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R36/38: Irritating to eyes and skin.
 R21/22: Harmful in contact with skin and if swallowed.

Classification Method: On basis of test data

Legend of Abbreviations:

ACGIH = American Conference on Governmental Industrial Hygienists.
 CAS = Chemical Abstracts Service.
 CFR = Code of Federal Regulations.
 DSL/NDL = Domestic Substances List/Non-Domestic Substances List.
 EC = European Community.
 EINECS = European Inventory of Existing Commercial Chemical Substances.
 ELINCS = European List of Notified Chemical Substances.
 EU = European Union.
 GHS = Globally Harmonized System.
 LC = Lethal Concentration.

LD = Lethal Dose.
 NFPA = National Fire Protection Association.
 NIOSH = National Institute of Occupational Safety and Health.
 NTP = National Toxicology Program.
 OSHA = Occupational Safety and Health Administration
 PEL = Permissible Exposure Limit.
 RQ = Reportable Quantity.
 SARA = Superfund Amendments and Reauthorization Act of 1986.
 TLV = Threshold Limit Value.
 WHMIS = Workplace Hazardous Materials Information System.



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Important Note: Please note that the information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. The information contained herein may change without prior notice. THIS SAFETY DATA SHEET SUPERSEDES ALL PREVIOUS EDITIONS.

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