

Apollo Scientific	Chemwatch Hazard Alert Code: 4
Part Number: OR8894	Issue Date: 04/09/2023
Version No: 1.2	Print Date: 04/09/2023
Safety Data Sheet (Conforms to Annex II of REACH (1907/2006) - Regulation 2020/878)	S.REACH.GB-NIR.EN

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

1.1. Product Identifier Product name 3-Vinylpyridine Chemical Name 3-Z烯基吡啶 (含稳定剂TBC) Synonyms Not Available Proper shipping name VINYLPYRIDINES, STABILIZED Other means of identification Not Available I121-55-7* 1121-55-7*

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

Relevant identified uses	Use according to manufacturer's directions.
Uses advised against	No specific uses advised against are identified.

1.3. Details of the manufacturer or supplier of the safety data sheet

Registered company name	Apollo Scientific
Address	Whitefield Road, Bredbury SK62QR United Kingdom
Telephone	01614060505
Fax	0161 406 0506
Website	http://www.apolloscientific.co.uk/
Email	sales@apolloscientific.co.uk

1.4. Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	Not Available
Other emergency telephone numbers	Not Available

SECTION 2 Hazards identification

2.1. Classification of the substance or mixture

Classification according to	H226 - Flammable Liquids Category 3, H301 - Acute Toxicity (Oral) Category 3, H310 - Acute Toxicity (Dermal) Category 2, H314 - Skin
regulation (EC) No 1272/2008	Corrosion/Irritation Category 1B, H318 - Serious Eye Damage/Eye Irritation Category 1, H400 - Hazardous to the Aquatic Environment Acute
[CLP] and amendments ^[1]	Hazard Category 1, H410 - Hazardous to the Aquatic Environment Long-Term Hazard Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

2.2. Label elements

Hazard pictogram(s)	
Signal word	Danger

Hazard statement(s)

H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H410	Very toxic to aquatic life with long lasting effects.

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P260	Do not breathe mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash all exposed external body areas thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P273	Avoid release to the environment.

Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.	
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.
P363	Wash contaminated clothing before reuse.
P302+P352	IF ON SKIN: Wash with plenty of water.
P391	Collect spillage.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Precautionary statement(s) Storage

P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

Precautionary statement(s) Disposal

P501

Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

2.3. Other hazards

Inhalation and/or ingestion may produce serious health damage*.

REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

SECTION 3 Composition / information on ingredients

3.1.Substances

1. CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	SCL / M-Factor	Nanoform Particle Characteristics
1. 1121-55-7* 2.Not Available 3.Not Available 4.Not Available	100	3-Vinylpyridine	Flammable Liquids Category 3, Acute Toxicity (Oral) Category 3, Acute Toxicity (Dermal) Category 2, Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1, Hazardous to the Aquatic Environment Acute Hazard Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 1; H226, H301, H310, H314, H318, H400, H410 ^[1]	0	Not Available

Legend: 1. Classified by Chernwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties

See 'Information on ingredients' in section 3.1

SECTION 4 First aid measures

4.1. Description of first aid measures			
Eye Contact	 If this product comes in contact with the eyes: Immediately hold eyelids apart and flush the eye continuously with running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. 		
Skin Contact	 If skin or hair contact occurs: Immediately flush body and clothes with large amounts of water, using safety shower if available. Quickly remove all contaminated clothing, including footwear. Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. Transport to hospital, or doctor. 		
Inhalation	 If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor, without delay. Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested. Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered. This must definitely be left to a doctor or person authorised by him/her. (ICSC13719) 		
Ingestion	 For advice, contact a Poisons Information Centre or a doctor at once. Urgent hospital treatment is likely to be needed. If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Transport to hospital or doctor without delay. 		

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

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

As in all cases of suspected poisoning, follow the ABCDEs of emergency medicine (airway, breathing, circulation, disability, exposure), then the ABCDEs of toxicology (antidotes, basics, change absorption, change distribution, change elimination).

For poisons (where specific treatment regime is absent):

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 L/min.
 Monitor and treat where necessary for pulmonary ordema
- Monitor and treat, where necessary, for pulmonary oedema.
- Monitor and treat, where necessary, for shock.
- Anticipate seizures.
- DO NOT use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

ADVANCED TREATMENT

- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- Positive-pressure ventilation using a bag-valve mask might be of use
- Monitor and treat, where necessary, for arrhythmias.
- Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- Drug therapy should be considered for pulmonary oedema.
- + Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- Treat seizures with diazepam.
- Proparacaine hydrochloride should be used to assist eye irrigation.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

Depending on the degree of exposure, periodic medical examination is indicated. The symptoms of lung oedema often do not manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation is therefore essential. Immediate administration of an appropriate spray, by a doctor or a person authorised by him/her should be considered.

(ICSC24419/24421

SECTION 5 Firefighting measures

5.2. Special hazards arising from the substrate or mixture

Fire Incompatibility	Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
5.3. Advice for firefighters	
Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	May emit poisonous fumes. BEWARE: Empty solvent, paint, lacquer and flammable liquid drums present a severe explosion hazard if cut by flame torch or welded. Even when thoroughly cleaned or reconditioned the drum seams may retain sufficient solvent to generate an explosive atmosphere in the drum.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

Minor Spills	 Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb small quantities with vermiculite or other absorbent material. Wipe up. Collect residues in a flammable waste container. Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material. Check regularly for spills and leaks.
Major Spills	 Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. May be violently or explosively reactive. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Consider evacuation (or protect in place). No smoking, naked lights or ignition sources. Increase ventilation. Stop leak if safe to do so. Water spray or fog may be used to disperse vapour. Contain or absorb spill with sand, earth or vermiculite. Use only spark-free shovels and explosion proof equipment. Collect recoverable product into labelled drums for disposal. Wash area and prevent runoff into drains. After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. If contamination of drains or waterways occurs, advise emergency services.

6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

7.1. Precautions for safe hand	ling
Safe handling	 Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. DO NOT allow material to contact humans, exposed food or food utensils. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to contairers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Launder contaminated clothing before re-use. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

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3-Vinylpyridine

	 Containers, even those that have been emptied, may contain explosive vapours. Do NOT cut, drill, grind, weld or perform similar operations on or near containers. DO NOT allow clothing wet with material to stay in contact with skin
Fire and explosion protection	See section 5
Other information	 Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.
7.2. Conditions for safe storage	e, including any incompatibilities
Suitable container	 Lined metal can, lined metal pail/ can. Plastic pail. Polyliner drum. Packing as recommended by manufacturer. Check all containers are clearly labelled and free from leaks. For low viscosity materials Drums and jerricans must be of the non-removable head type. Where a can is to be used as an inner package, the can must have a screwed enclosure. For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.): Removable head packaging; Cans with friction closures and Iow pressure tubes and cartridges may be used. Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packaging s - In addition, where inner packagings are glass and contain liquids of packing group I and II there must be sufficient inert absorbent to absorb any spillage *. unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic. All inner and sole packagings for substances that have been assigned to Packaging Groups I or II on the basis of inhalation toxicity criteria, must be hermetically sealed.
Storage incompatibility	Avoid reaction with oxidising agents
Hazard categories in accordance with Regulation (EC) No 1272/2008	H2: Acute Toxic, P5a: Flammable Liquids, P5b: Flammable Liquids, P5c: Flammable Liquids, E1: Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1
Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of	H2 Lower- / Upper-tier requirements: 50 / 200 P5a Lower- / Upper-tier requirements: 10 / 50 P5b Lower- / Upper-tier requirements: 50 / 200 P5c Lower- / Upper-tier requirements: 5 000 / 50 000 E1 Lower- / Upper-tier requirements: 100 / 200

7.3. Specific end use(s)

See section 1.2

SECTION 8 Exposure controls / personal protection

8.1. Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
Not Available	Not Available	Not Available

* Values for General Population

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Not Available						

Not Applicable

Emergency Limits				
Ingredient	TEEL-1	TEEL-2		TEEL-3
3-Vinylpyridine	Not Available	Not Available		Not Available
Ingredient	Original IDLH		Revised IDLH	
3-Vinylpyridine	Not Available		Not Available	

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
3-Vinylpyridine	E	≤ 0.1 ppm

	•	•		
be highly effective in protecting workers and will typically be The basic types of engineering controls are: Process controls which involve changing the way a job activ Enclosure and/or isolation of emission source which keeps "adds" and "removes" air in the work environment. Ventilativ ventilation system must match the particular process and cl Employers may need to use multiple types of controls to pro- Local exhaust ventilation usually required. If risk of overexp protection. Supplied-air type respirator may be required in s An approved self contained breathing apparatus (SCBA) m Provide adequate ventilation in warehouse or closed storage	e independent of worker interaction vity or process is done to reduce t a selected hazard "physically" aw on can remove or dilute an air con hemical or contaminant in use. event employee overexposure. posure exists, wear approved respi special circumstances. Correct fit i nay be required in some situations. ge area. Air contaminants generate	ns to provide this high level of he risk. ay from the worker and vent itaminant if designed properl irator. Correct fit is essential s essential to ensure adequa ed in the workplace possess	of protection. ilation that strategically y. The design of a to obtain adequate ate protection. varying "escape"	
solvent, vapours, degreasing etc., evaporating from tank ((in still air).		0.25-0.5 m/s	
		ransfers, welding, spray	(50-100 f/min.) 0.5-1 m/s (100-200 f/min.)	
		gas discharge (active	1-2.5 m/s (200-500 f/min.)	
grinding, abrasive blasting, tumbling, high speed wheel ge very high rapid air motion).	enerated dusts (released at high in	itial velocity into zone of	2.5-10 m/s (500-2000 f/min.)	
Within each range the appropriate value depends on:		1		
Lower end of the range	Upper end of the range			
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents			
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity			
3: Intermittent, low production.	3: High production, heavy use			
Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.				
 Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] Full face shield may be required for supplementary but never for primary protection of eyes. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irritation - lens should be removed it a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59]. 				
See Hand protection below				
The selection of suitable gloves does not only depend on the manufacturer. Where the chemical is a preparation of sever and has therefore to be checked prior to the application. The exact break through time for substances has to be obta- making a final choice. Personal hygiene is a key element of effective hand care. Of washed and dried thoroughly. Application of a non-perfume Suitability and durability of glove type is dependent on usage • frequency and duration of contact, • chemical resistance of glove material,	alls outside of boots, to avoid spill ne material, but also on further ma ral substances, the resistance of the ained from the manufacturer of the Gloves must only be worn on clear ad moisturiser is recommended.	rks of quality which vary from ne glove material can not be a protective gloves and has t n hands. After using gloves, I	calculated in advance o be observed when	
	 adverse health outcomes associated with exposure. The orrange of exposure concentrations that are expected to protecting of exposure concentrations that are expected to protecting of exposure concentrations that are expected to protecting be highly effective in protecting workers and will typically by The basic types of engineering controls are: Process controls which involve changing the way a job act Enclosure and/or isolation of emission source which keeps "adds" and "removes" air in the work environment. Ventilativentilation system must match the particular process and o Employers may need to use multiple types of controls to provide adequate ventilation in warehouse or closed storag velocities which, in turn, determine the "capture velocities" Type of Contaminant: solvent, vapours, degreasing etc., evaporating from tank (a arcsols, fumes from pouring operations, intermittent condrift, plating acid fumes, pickling (released at low velocity direct spray, spray painting in shallow booths, drum filling, generation into zone of rapid air motion) grinding, abrasive blasting, tumbling, high speed wheel ge very high rapid air motion). Within each range the appropriate value depends on: Lower end of the range 1: Room air currents minimal or favourable to capture 2: Contaminants of low toxicity or of nuisance value only. 3: Intermittent, low production. 4: Large hood or large air mass in motion Simple theory shows that air velocity falls rapidly with dista with the square of distance from the extraction optim (in sim accordingly, after reference to distance from the contamina 1-2 m/s (200-400 t/min) for extraction of solvents generated the waring of lenses or restrictions on use, should be and adsorption for the class of chemicals in use and art their removal and suitable equipment should be readily remove contact lens as soon as practicable. Lens shou a clean environment only after workers have washed here in	Occupational exposure banding is a process of assigning chemicals into specific categories of adverse health outcomes associated with exposure. The output of this process is an occupating of exposure concentrations that are expected to protect worker health. Engineering controls are used to remove a hazard or place a barrier between the worker interaction the basic types of engineering controls are. Processes controls which involve changing the way a job activity or process is done to reduce a fination of vorker interaction vehicles or isolation of ensions oncore which keeps a selected hazard dynically and the basic types of engineering controls are: Local exhaust ventilation usually required. If tisk of overexposure exists, wear approved regp protection. Supplied air type respirator may be required in special circumstances. Correct til in an approved ale contaming apparatus (SCBA) may be required in special circumstances. Correct til in an approved adequate ventilation in watchuse or closed storage area. Air contaminants generative to closed storage area. Air contaminants generative to discuss of these inclusions and required to or discuss and the process and cheater and the regime in some situations. Provide adequate ventilation in watchuse or closed storage area. Air contaminants generation is over a spiceling apparatus (SCBA) may be required in some situations. Type of Contaminant: solvent, vapours, degreesing etc., evaporating from tank (in still air). aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer to drift, pating acid fumes, pickling (belaesed at low velocity into zone of acid serie generation into zone of rapid air motion). generation into zone of rapid air motion 1: Disturbing room air currents in the many be	Consistency and a process of a signing denominal in the specific of approach of a signing of a model of a specific of approach of app	

When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN

	 374, AS/NZS 2161.10.1 or national equivalent) is recommended. Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. Contaminated gloves should be replaced. As defined in ASTM F-739-96 in any application, gloves are rated as: Excellent when breakthrough time > 480 min Good when breakthrough time > 20 min Fair when breakthrough time < 20 min Poor when glove material degrades For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended. It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times. Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task. Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example: Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of. Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.
Body protection	See Other protection below
Other protection	 Overalls. Eyewash unit. Barrier cream. Skin cleansing cream. Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity. For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets). Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot an shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.

8.2.3. Environmental exposure controls

See section 12

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Pale yellow		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	85/10mm	Molecular weight (g/mol)	Not Available
Flash point (°C)	51	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Flammable.	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Partly miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	0.98	VOC g/L	Not Available
Nanoform Solubility	Not Available	Nanoform Particle Characteristics	Not Available
Particle Size	Not Available		

Not Available

SECTION 10 Stability and reactivity

10.1.Reactivity	See section 7.2
10.2. Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
10.3. Possibility of hazardous reactions	See section 7.2
10.4. Conditions to avoid	See section 7.2
10.5. Incompatible materials	See section 7.2
10.6. Hazardous decomposition products	See section 5.3

SECTION 11 Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Inhaled	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may produce severely damaging effects to the health of the individual. Relatively small amounts absorbed from the lungs may prove fatal.
Ingestion	The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion. Accidental ingestion of the material may be seriously damaging to the health of the individual; animal experiments indicate that ingestion of less than 40 gram may be fatal. Vinylpyridines are intermediate in their toxicity between aminopyridines and pyridines. Absorption through the digestive tract results in weakness, inco-ordination, dilation of blood vessels and convulsions. Symptoms are mild and temporary.
Skin Contact	The material can produce chemical burns following direct contact with the skin. Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating. If applied to the eyes, this material causes severe eye damage.
Chronic	Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

3-Vinylpyridine	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.					
Acute Toxicity	✓	Carcinogenicity	×			
Skin Irritation/Corrosion	×	Reproductivity 🗙				
Serious Eye Damage/Irritation	✓ STOT - Single Exposure X					
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure X				
Mutagenicity	×	Aspiration Hazard 🗙				

Legend: 💙

X − Data either not available or does not fill the criteria for classification
✓ − Data available to make classification

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

See Section 11.1

SECTION 12 Ecological information

12.1. Toxicity Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation		
	No Data available for all ingredients		
12.4. Mobility in soil			

Ingredient	Mobility	
	No Data available for all ingredients	

12.5. Results of PBT and vPvB assessment

	Р	В	т	
Relevant available data	Not Available	Not Available	Not Available	
PBT	×	×	×	
vPvB	×	×	×	
PBT Criteria fulfilled?			No	
vPvB			No	

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

12.7. Other adverse effects

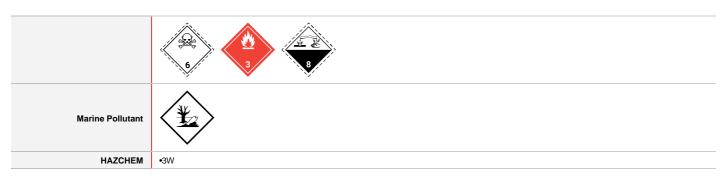
No evidence of ozone depleting properties were found in the current literature.

SECTION 13 Disposal considerations

13.1. Waste treatment methods

13.1. waste treatment methods	
Product / Packaging disposal	Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate: Reduction Reuse Recycling Disposal (if all else fails) This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate. DO NOT allow wash water from cleaning or process equipment to enter drains. I th may be necessary to collect all wash water for treatment before disposal. I nall cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. Recycle wherever possible. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. Treat and neutralise at an approved treatment plant. Treatment should involve: Neutralisation followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus.
Waste treatment options	Not Available
Sewage disposal options	Not Available

SECTION 14 Transport information



Land transport (ADR-RID)

14.1. UN num number		3073			
14.2. UN prop name	per shipping	VINYLPYRIDINES, STABILIZED			
14.3. Transpo class(es		Class6.1Subsidiary risk3, 8			
14.4. Packing	l group	II			
14.5. Environ	mental hazard	Environmentally hazardous			
	Hazard identification (Kemler)	638			
		Classification code	TFC		
14.6. Special	precautions for	Hazard Label	6.1 +3 +8		
user		Special provisions	386 676		
		Limited quantity	100 ml		
		Tunnel Restriction Code	2 (D/E)		

Air transport (ICAO-IATA / DGR)

14.1. UN number	3073				
14.2. UN proper shipping name	Vinylpyridines, stabilized				
	ICAO/IATA Class	6.1			
14.3. Transport hazard class(es)	ICAO / IATA Subsidiary Hazard	3, 8			
01255(85)	ERG Code 6CF				
14.4. Packing group	Ш				
14.5. Environmental hazard	Environmentally hazardous				
	Special provisions		A209		
	Cargo Only Packing Instructions		660		
	Cargo Only Maximum Qty / Pack		30 L		
14.6. Special precautions for user	Passenger and Cargo Packing Instructions		653		
4301	Passenger and Cargo Maximum Qty / Pack		1 L		
	Passenger and Cargo Limited Quantity Packing Instructions		Y640		
	Passenger and Cargo Limited Ma	aximum Qty / Pack	0.5 L		

Sea transport (IMDG-Code / GGVSee)

• •	•		
14.1. UN number	3073		
14.2. UN proper shipping name	VINYLPYRIDINES, STABILIZED		
14.3. Transport hazard class(es)	IMDG Class6.1IMDG Subrisk3, 8		
14.4. Packing group	I		
14.5. Environmental hazard	Marine Pollutant		
14.6. Special precautions for user	EMS NumberF-E, S-CSpecial provisions386Limited Quantities100 mL		

14.1. UN number	3073		
14.2. UN proper shipping name	VINYLPYRIDINES, STABILIZED		
14.3. Transport hazard class(es)	6.1 3, 8		
14.4. Packing group	I		
14.5. Environmental hazard	Environmentally hazardous		
	Classification code	TFC	
	Special provisions	386; 676; 802	
14.6. Special precautions for user	Limited quantity	100 ml	
	Equipment required	PP, EP, EX, TOX, A	
	Fire cones number	2	

14.7. Maritime transport in bulk according to IMO instruments

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
3-Vinylpyridine	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
3-Vinylpyridine	Not Available

SECTION 15 Regulatory information

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

3-Vinylpyridine is found on the following regulatory lists

Not Applicable

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

Information according to 2012/18/EU (Seveso III):

Seveso Category	H2, P5a, P5b, P5c, E1

15.2. Chemical safety assessment

For further information please look at the Chemical Safety Assessment and Exposure Scenarios prepared by your Supply Chain if available.

ECHA SUMMARY

Ingredient	CAS number	CAS number Index No		ECHA Dossier		
3-Vinylpyridine	1121-55-7*	Not Available		Not Availa	Not Available	
Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Hazard Class and Category Code(s)		Pictograms Signal Word Code(s) Hazard Statement Code(s		
1	Flam. Liq. 3; Acute Tox. 3; Acute Tox. 2; Skin C Eye Dam. 1; STOT SE 3; Aquatic Chronic 2	Flam. Liq. 3; Acute Tox. 3; Acute Tox. 2; Skin Corr. 1B; Skin Sens. 1; Eye Dam. 1; STOT SE 3; Aquatic Chronic 2		GHS05;	H226; H301; H310; H314; H317; H318; H335; H411	
2	Flam. Liq. 3; Acute Tox. 3; Acute Tox. 2; Skin Corr. 1B; Skin Sens. 1; Eye Dam. 1; STOT SE 3; Aquatic Chronic 2		GHS02; GHS09; GHS06; Dgr	GHS05;	H226; H301; H310; H314; H317; H318; H335; H411	

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

National Inventory Status

National Inventory	Status		
Australia - AIIC / Australia Non-Industrial Use	No (3-Vinylpyridine)		
Canada - DSL	No (3-Vinylpyridine)		
Canada - NDSL	No (3-Vinylpyridine)		
China - IECSC	No (3-Vinylpyridine)		
Europe - EINEC / ELINCS / NLP	No (3-Vinylpyridine)		
Japan - ENCS	No (3-Vinylpyridine)		
Korea - KECI	No (3-Vinylpyridine)		
New Zealand - NZIoC	No (3-Vinylpyridine)		
Philippines - PICCS	No (3-Vinylpyridine)		
USA - TSCA	No (3-Vinylpyridine)		

National Inventory	Status
Taiwan - TCSI	Yes
Mexico - INSQ	No (3-Vinylpyridine)
Vietnam - NCI	No (3-Vinylpyridine)
Russia - FBEPH	No (3-Vinylpyridine)
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	04/09/2023
Initial Date	10/05/2022

Full text Risk and Hazard codes

H317	ay cause an allergic skin reaction.		
H318	Causes serious eye damage.		
H335	May cause respiratory irritation.		
H400	Very toxic to aquatic life.		
H411	Toxic to aquatic life with long lasting effects.		

SDS Version Summary

Version	Date of Update	Sections Updated
0.2	04/09/2023	Toxicological information - Acute Health (eye), Toxicological information - Acute Health (inhaled), Toxicological information - Acute Health (swallowed), First Aid measures - Advice to Doctor, Hazards identification - Classification, Exposure controls / personal protection - Engineering Control, Firefighting measures - Fire Fighter (fire/explosion hazard), Firefighting measures - Fire Fighter (fire fighting), Handling and storage - Handling Procedure, Composition / information on ingredients - Ingredients, Exposure controls / personal protection - Personal Protection (other), Accidental release measures - Spills (minor), Handling and storage - Storage (storage requirement), Handling and storage - Storage (suitable container), Transport information - Transport, Identification of the substance / mixture and of the company / undertaking - Use

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered. For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eye-protection

EN 340 Protective clothing

EN 374 Protective gloves against chemicals and micro-organisms

EN 13832 Footwear protecting against chemicals

EN 133 Respiratory protective devices

Definitions and abbreviations

PC-TWA: Permissible Concentration-Time Weighted Average

PC-STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit.

IDLH: Immediately Dangerous to Life or Health Concentrations

ES: Exposure Standard

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value

LOD: Limit Of Detection

OTV: Odour Threshold Value BCF: BioConcentration Factors

BEI: Biological Exposure Index

AIIC: Australian Inventory of Industrial Chemicals

DSL: Domestic Substances List

NDSL: Non-Domestic Substances List

IECSC: Inventory of Existing Chemical Substance in China

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

NLP: No-Longer Polymers

ENCS: Existing and New Chemical Substances Inventory

KECI: Korea Existing Chemicals Inventory

NZIoC: New Zealand Inventory of Chemicals

PICCS: Philippine Inventory of Chemicals and Chemical Substances

TSCA: Toxic Substances Control Act

TCSI: Taiwan Chemical Substance Inventory

INSQ: Inventario Nacional de Sustancias Químicas

NCI: National Chemical Inventory

FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	Classification Procedure		
Flammable Liquids Category 3, H226	Expert judgement		
Acute Toxicity (Oral) Category 3, H301	Expert judgement		
Acute Toxicity (Dermal) Category 2, H310	Expert judgement		
Skin Corrosion/Irritation Category 1B, H314	Expert judgement		
Serious Eye Damage/Eye Irritation Category 1, H318	Calculation method		
Hazardous to the Aquatic Environment Acute Hazard Category 1, H400	Expert judgement		
Hazardous to the Aquatic Environment Long-Term Hazard Category 1, H410	Expert judgement		

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