

TF - Tacky Flux

STIRRI

Chemwatch Hazard Alert Code: 3

Part Number: TF - Tacky Flux

Version No: 03-25

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: 03/21/2025

Print Date: 03/21/2025

S.GHS.USA.EN

SECTION 1 IDENTIFICATION

Product Identifier

Product name	TF - Tacky Flux, ASM, BGA, ENIGMA, HF, HT, HYDRA, LED, LT, MA, MT, PRO, RA, RMA, STIRRI, UHF, V2-TF, V3-TF, V4-TF, V5-TF
Synonyms	Gel
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Tacky solder flux is a thixotropic material used in electronic assembly to temporarily hold surface mount components in place before and during the soldering process. Its viscous nature allows for precise application and component retention, preventing movement during reflow soldering. Additionally, it serves as a chemical reducing agent, removing oxides from metal surfaces to ensure a strong, reliable solder joint. This flux also aids in heat transfer and reduces surface tension, facilitating proper solder wetting and minimizing solder defects.
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	STIRRI
Address	166 Geary St. 15th Fl San Francisco, CA 94108 California United States of America
Telephone	+1 (866) 478-4774
Fax	+1 (866) 478-4774
Website	https://stirri.com
Email	service@stirri.com

Emergency phone number

Association / Organisation	STIRRI
Emergency telephone number(s)	+1 (866) 478-4774
Other emergency telephone number(s)	Not Available

SECTION 2 HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	0	
Toxicity	2	
Body Contact	3	
Reactivity	0	
Chronic	2	

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification	Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 1, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3
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Label elements

Hazard pictogram(s)	
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SIGNAL WORD **DANGER**

Hazard statement(s)

H302	Harmful if swallowed.
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H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P261	Avoid breathing mist/vapours/spray.
P264	Wash all exposed external body areas thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P272	Contaminated work clothing must not be allowed out of the workplace.

Precautionary statement(s) Response

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 CENTER/doctor/physician/first aider.
P302+P352	IF ON SKIN: Wash with plenty of water.
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P330	Rinse mouth.
P332+P313	If skin irritation occurs: Get medical advice/attention.

Precautionary statement(s) Storage

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available		Proprietary Ingredient
Not Available		Proprietary Ingredient
144413-22-9	25	rosin, reaction products with acrylic acid, hydrogenated
Not Available		Proprietary Ingredient
Not Available		Proprietary Ingredient
Not Available		Proprietary Ingredient
Not Available		Proprietary Ingredient
Not Available		Proprietary Ingredient
Not Available		Proprietary Ingredient

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 FIRST-AID MEASURES**Description of first aid measures**

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> • 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.
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<p>Skin Contact</p>	<ul style="list-style-type: none"> • Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. <p>If skin contact occurs:</p> <ul style="list-style-type: none"> • Immediately remove all contaminated clothing, including footwear. • Flush skin and hair with running water (and soap if available). • Seek medical attention in event of irritation. <p>For thermal burns:</p> <ul style="list-style-type: none"> • Decontaminate area around burn. • Consider the use of cold packs and topical antibiotics. <p>For first-degree burns (affecting top layer of skin)</p> <ul style="list-style-type: none"> • Hold burned skin under cool (not cold) running water or immerse in cool water until pain subsides. • Use compresses if running water is not available. • Cover with sterile non-adhesive bandage or clean cloth. • Do NOT apply butter or ointments; this may cause infection. • Give over-the counter pain relievers if pain increases or swelling, redness, fever occur. <p>For second-degree burns (affecting top two layers of skin)</p> <ul style="list-style-type: none"> • Cool the burn by immerse in cold running water for 10-15 minutes. • Use compresses if running water is not available. • Do NOT apply ice as this may lower body temperature and cause further damage. • Do NOT break blisters or apply butter or ointments; this may cause infection. • Protect burn by cover loosely with sterile, nonstick bandage and secure in place with gauze or tape. <p>To prevent shock: (unless the person has a head, neck, or leg injury, or it would cause discomfort):</p> <ul style="list-style-type: none"> • Lay the person flat. • Elevate feet about 12 inches. • Elevate burn area above heart level, if possible. • Cover the person with coat or blanket. • Seek medical assistance. <p>For third-degree burns Seek immediate medical or emergency assistance.</p> <p>In the mean time:</p> <ul style="list-style-type: none"> • Protect burn area cover loosely with sterile, nonstick bandage or, for large areas, a sheet or other material that will not leave lint in wound. • Separate burned toes and fingers with dry, sterile dressings. • Do not soak burn in water or apply ointments or butter; this may cause infection. • To prevent shock see above. • For an airway burn, do not place pillow under the person's head when the person is lying down. This can close the airway. • Have a person with a facial burn sit up. • Check pulse and breathing to monitor for shock until emergency help arrives. <p>In case of burns:</p> <ul style="list-style-type: none"> • Immediately apply cold water to burn either by immersion or wrapping with saturated clean cloth. • DO NOT remove or cut away clothing over burnt areas. DO NOT pull away clothing which has adhered to the skin as this can cause further injury. • DO NOT break blister or remove solidified material. • Quickly cover wound with dressing or clean cloth to help prevent infection and to ease pain. • For large burns, sheets, towels or pillow slips are ideal; leave holes for eyes, nose and mouth. • DO NOT apply ointments, oils, butter, etc. to a burn under any circumstances. • Water may be given in small quantities if the person is conscious. • Alcohol is not to be given under any circumstances. • Reassure. • Treat for shock by keeping the person warm and in a lying position. • Seek medical aid and advise medical personnel in advance of the cause and extent of the injury and the estimated time of arrival of the patient.
<p>Inhalation</p>	<ul style="list-style-type: none"> • 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.
<p>Ingestion</p>	<ul style="list-style-type: none"> • IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. • For advice, contact a Poisons Information Centre or a doctor. • Urgent hospital treatment is likely to be needed. • In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. • If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist. • If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS. <p>Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:</p> <ul style="list-style-type: none"> • INDUCE vomiting with fingers down the back of the throat, ONLY IF CONSCIOUS. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. <p>NOTE: Wear a protective glove when inducing vomiting by mechanical means.</p>

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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.

Continued...

- 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 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 CURRRANCE, P.L.
EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994
Treat symptomatically.

SECTION 5 FIRE-FIGHTING MEASURES

Extinguishing media

- **Do NOT direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire.**
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

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 |
|-----------------------------|--|

Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none"> • Alert Fire Brigade and tell them location and nature of hazard. • Wear breathing apparatus plus protective gloves. • Prevent, by any means available, spillage from entering drains or water courses. • Use water delivered as a fine spray to control fire and cool adjacent 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	<p>Combustible. Will burn if ignited. Combustion products include: carbon monoxide (CO) carbon dioxide (CO2) nitrogen oxides (NOx) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes. CARE: Contamination of heated / molten liquid with water may cause violent steam explosion, with scattering of hot contents.</p>

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<p>Environmental hazard - contain spillage. Slippery when spilt.</p> <ul style="list-style-type: none"> • Clean up all spills immediately. • Avoid contact with skin and eyes. • Wear impervious gloves and safety goggles. • Trowel up/scrape up. • Place spilled material in clean, dry, sealed container. • Flush spill area with water.
Major Spills	<ul style="list-style-type: none"> • Clear area of personnel and move upwind. • Alert Fire Brigade and tell them location and nature of hazard. • Wear breathing apparatus plus protective gloves. • Prevent, by any means available, spillage from entering drains or water course. • Stop leak if safe to do so. • Contain spill with sand, earth or vermiculite. • Collect recoverable product into labelled containers for recycling.

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- Neutralise/decontaminate residue (see Section 13 for specific agent).
 - Collect solid residues and seal in 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.
- Environmental hazard - contain spillage.
Slippery when spilt.

Reference to other sections

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<p>The tendency of many ethers to form explosive peroxides is well documented. Ethers lacking non-methyl hydrogen atoms adjacent to the ether link are thought to be relatively safe</p> <ul style="list-style-type: none"> • DO NOT concentrate by evaporation, or evaporate extracts to dryness, as residues may contain explosive peroxides with DETONATION potential. • Any static discharge is also a source of hazard. • Before any distillation process remove trace peroxides by shaking with excess 5% aqueous ferrous sulfate solution or by percolation through a column of activated alumina. • Distillation results in uninhibited ether distillate with considerably increased hazard because of risk of peroxide formation on storage. • Add inhibitor to any distillate as required. • When solvents have been freed from peroxides by percolation through columns of activated alumina, the absorbed peroxides must promptly be desorbed by treatment with polar solvents such as methanol or water, which should then be disposed of safely. <p>The substance accumulates peroxides which may become hazardous only if it evaporates or is distilled or otherwise treated to concentrate the peroxides. The substance may concentrate around the container opening for example.</p> <p>Purchases of peroxidisable chemicals should be restricted to ensure that the chemical is used completely before it can become peroxidised.</p> <ul style="list-style-type: none"> • A responsible person should maintain an inventory of peroxidisable chemicals or annotate the general chemical inventory to indicate which chemicals are subject to peroxidation. An expiration date should be determined. The chemical should either be treated to remove peroxides or disposed of before this date. • The person or laboratory receiving the chemical should record a receipt date on the bottle. The individual opening the container should add an opening date. • Unopened containers received from the supplier should be safe to store for 18 months. • Opened containers should not be stored for more than 12 months. • 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 containers. • 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.
Other information	<ul style="list-style-type: none"> • 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.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> • Metal can or drum • Packaging as recommended by manufacturer. • Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<ul style="list-style-type: none"> • Glycol ethers may form peroxides under certain conditions; the potential for peroxide formation is enhanced when these substances are used in processes such as distillation where they are concentrated or even evaporated to near-dryness or dryness; storage under a nitrogen atmosphere is recommended to minimise the possible formation of highly reactive peroxides • Nitrogen blanketing is recommended if transported in containers at temperatures within 15 deg C of the flash-point and at or above the flash-point - large containers may first need to be purged and inerted with nitrogen prior to loading • In the presence of strong bases or the salts of strong bases, at elevated temperatures, the potential exists for runaway reactions. • Contact with aluminium should be avoided; release of hydrogen gas may result- glycol ethers will corrode scratched aluminium surfaces. • May discolour in mild steel/ copper; lined containers, glass or stainless steel is preferred • Glycols and their ethers undergo violent decomposition in contact with 70% perchloric acid. This seems likely to involve formation of the glycol perchlorate esters (after scission of ethers) which are explosive, those of ethylene glycol and 3-chloro-1,2-propanediol being more powerful than glyceryl nitrate, and the former so sensitive that it explodes on addition of water . Investigation of the hazards associated with use of 2-butoxyethanol for alloy electropolishing showed that mixtures with 50-95% of acid at 20 deg C, or 40-90% at 75 C, were explosive and initiable by sparks. Sparking caused mixtures with 40-50% of acid to become explosive, but 30% solutions appeared safe under static conditions of temperature and concentration. • Avoid strong bases. • Avoid reaction with oxidising agents



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+ × ○ × + + +

- × – Must not be stored together
- – May be stored together with specific preventions
- + – May be stored together

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS

Ingredient	TEEL-1	TEEL-2	TEEL-3
TF - Tacky Flux	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
Proprietary Ingredient		
Proprietary Ingredient		
rosin, reaction products with acrylic acid, hydrogenated	Not Available	Not Available
Proprietary Ingredient		
Proprietary Ingredient		
Proprietary Ingredient		
Proprietary Ingredient		
Proprietary Ingredient		
Proprietary Ingredient		

OCCUPATIONAL EXPOSURE BANDING

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
Proprietary Ingredient	D	> 0.1 to ≤ 1 ppm
Proprietary Ingredient	C	> 0.1 to ≤ milligrams per cubic meter of air (mg/m³)
rosin, reaction products with acrylic acid, hydrogenated	D	> 0.01 to ≤ 0.1 mg/m³
Proprietary Ingredient	C	> 1 to ≤ 10 parts per million (ppm)
Proprietary Ingredient	E	≤ 0.1 ppm
Proprietary Ingredient	C	> 0.1 to ≤ milligrams per cubic meter of air (mg/m³)


Notes: Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

Exposure controls

<p>Appropriate engineering controls</p>	<p>For molten materials: Provide mechanical ventilation; in general such ventilation should be provided at compounding/ converting areas and at fabricating/ filling work stations where the material is heated. Local exhaust ventilation should be used over and in the vicinity of machinery involved in handling the molten material. Keep dry!! Processing temperatures may be well above boiling point of water, so wet or damp material may cause a serious steam explosion if used in unvented equipment. Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Type of Contaminant:</td> <td style="width: 20%;">Air Speed:</td> </tr> <tr> <td>solvent, vapours, degreasing etc., evaporating from tank (in still air).</td> <td>0.25-0.5 m/s (50-100 f/min)</td> </tr> </table>	Type of Contaminant:	Air Speed:	solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min)
Type of Contaminant:	Air Speed:				
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min)				

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	<p>aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)</p> <p>direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)</p> <p>grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion)</p> <p>Within each range the appropriate value depends on:</p> <table border="1"> <tr> <td>Lower end of the range</td> <td>Upper end of the range</td> </tr> <tr> <td>1: Room air currents minimal or favourable to capture</td> <td>1: Disturbing room air currents</td> </tr> <tr> <td>2: Contaminants of low toxicity or of nuisance value only.</td> <td>2: Contaminants of high toxicity</td> </tr> <tr> <td>3: Intermittent, low production.</td> <td>3: High production, heavy use</td> </tr> <tr> <td>4: Large hood or large air mass in motion</td> <td>4: Small hood-local control only</td> </tr> </table> <p>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.</p>	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	4: Large hood or large air mass in motion	4: Small hood-local control only	<p>0.5-1 m/s (100-200 f/min.)</p> <p>1-2.5 m/s (200-500 f/min.)</p> <p>2.5-10 m/s (500-2000 f/min.)</p>
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											
4: Large hood or large air mass in motion	4: Small hood-local control only											
Individual protection measures, such as personal protective equipment												
Eye and face protection	<ul style="list-style-type: none"> Safety glasses with side shields. Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] 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 irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59]. 											
Skin protection	See Hand protection below											
Hands/feet protection	<ul style="list-style-type: none"> Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber <p>NOTE:</p> <ul style="list-style-type: none"> The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. When handling hot materials wear heat resistant, elbow length gloves. Rubber gloves are not recommended when handling hot objects, materials Protective gloves eg. Leather gloves or gloves with Leather facing 											
Body protection	See Other protection below											
Other protection	<ul style="list-style-type: none"> When handling hot or molten liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. Usually handled as molten liquid which requires worker thermal protection and increases hazard of vapour exposure. CAUTION: Vapours may be irritating. Overalls. P.V.C apron. Barrier cream. Skin cleansing cream. Eye wash unit. 											

Respiratory protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	A-AUS / Class1 P2	-
up to 50	1000	-	A-AUS / Class 1 P2
up to 50	5000	Airline *	-
up to 100	5000	-	A-2 P2
up to 100	10000	-	A-3 P2
100+			Airline**

* - Continuous Flow ** - Continuous-flow or positive pressure demand

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Not Available
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TF - Tacky Flux

Physical state	Gel	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)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	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)	Not Available	Total VOC %w/w	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m ³)	Not Available	Enclosed Space Ignition Deflagration Density (g/m ³)	Not Available
Nanoform Solubility	Not Available	Nanoform Particle Characteristics	Not Available
Particle Size	Not Available		

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	<p>The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</p> <p>Inhalation hazard is increased at higher temperatures.</p> <p>Not normally a hazard due to non-volatile nature of product</p> <ul style="list-style-type: none"> Usually handled as molten liquid which requires worker thermal protection and increases hazard of vapour exposure. CAUTION: Vapours may be irritating.
Ingestion	<p>Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.</p> <p>Nonionic surfactants may produce localised irritation of the oral or gastrointestinal lining and induce vomiting and mild diarrhoea. At sufficiently high doses the material may be nephrotoxic (i.e. poisonous to the kidney).</p>
Skin Contact	<p>This material can cause inflammation of the skin on contact in some persons.</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Non-ionic surfactants cause less irritation than other surfactants as they have less ability to denature protein in the skin.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>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.</p> <p>Toxic effects may result from skin absorption</p>
Eye	<p>If applied to the eyes, this material causes severe eye damage.</p> <p>Non-ionic surfactants can cause numbing of the cornea, which masks discomfort normally caused by other agents and leads to corneal injury. Irritation varies depending on the duration of contact, the nature and concentration of the surfactant.</p>
Chronic	<p>Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>A number of common flavor and fragrance chemicals can form peroxides surprisingly fast in air. Antioxidants can in most cases minimize the oxidation.</p> <p>Fragrance terpenes are easily oxidized in air. Non-oxidised forms are very weak sensitizers; however, after oxidation, the hydroperoxides are strong sensitizers which may cause allergic reactions. Autooxidation of fragrance terpenes contributes greatly to fragrance allergy. There is</p>

Continued...

TF - Tacky Flux

the need to test for compounds the patients are actually exposed to, not only the ingredients originally applied in commercial formulations. Some glycol esters and their ethers cause wasting of the testicles, reproductive changes, infertility and changes to kidney function. Shorter chain compounds are more dangerous.

Rosin (colophony) has caused allergic contact dermatitis in solderers using resin flux-cored solders, can be a sensitizer for strings instrument players, and has caused dermatitis after use in adhesive tapes [NIOSHTEC]. It is found in many products that commonly come in contact with the skin, including cosmetics, sunscreens, veterinary medications, adhesives, sealants, polishes, paints and oils.

Case studies indicate that ethylene glycol phenyl ether (EGPE) causes acute damage to the nervous system, and chronic solvent-induced brain syndrome with repeated exposure. Constant irritability, depression, impaired memory and mental function may occur after 1-2 years of occupational exposure (e.g. among constantly exposed fish hatchery workers). Other symptoms include alcohol intolerance, abnormal breathing and heart rate, motor imbalance and rash. Excessive exposure may cause breakdown of red blood cells. Congeners of EGPE are expected to show similar behaviour.

Prolonged or repeated skin contact may cause degreasing, followed by drying, cracking and skin inflammation.

Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.

TF - Tacky Flux	TOXICITY	IRRITATION
	Not Available	Not Available
rosin, reaction products with acrylic acid, hydrogenated	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg [1]	Not Available
	Oral (Rat) LD50; >2000 mg/kg [1]	
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	

rosin, reaction products with acrylic acid, hydrogenated No significant acute toxicological data identified in literature search.

TF - Tacky Flux

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.

No evidence of a sensitization response was observed in the Gum Rosins key study, a guideline Local Lymph Node Assay conducted in mice, or in ten supporting studies conducted in guinea pigs according to the GPMT or Buehler methods. Gum Rosin is not classified for dermal sensitization according to the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Gum Rosin is currently classified for Skin Sensitization according to Annex I to Directive 67/548/EEC as R43: May cause sensitization by skin contact. Gum Rosin is also classified according to EU Classification, Labelling and Packaging of Substances and Mixtures (CLP) Regulation (EC) No. 1272/2008. As part of the harmonized translation between Directive 67/548/EEC and EU CLP Regulation (EC) No. 1272/2008, Table 3.1 of EU CLP Regulation (EC) No. 1272/2008 classifies Gum Rosin as "Skin Sensitizer Category 1" and assigns the hazard statement H317: May cause an allergic skin reaction. Table 3.2 of EU CLP Regulation (EC) No. 1272/2008 contains a list of harmonized classifications and labelling of hazardous substances from Annex I to Directive 67/548/EEC. Gum Rosin is assigned the risk phrase R43: May cause sensitization by skin contact in Table 3.2.

Subsequent evaluation determined that the single positive study for Gum Rosin was actually conducted with an oxidized form of the test material. Several esters of Rosin have been tested using similar protocols with similar results. When the Rosin esters were heated beyond the specified protocol, the oxidized material caused a positive sensitization response. When those same esters were retested using a different protocol which did not cause oxidation, all sensitization responses were negative. While the oxidized form of Gum Rosin should be considered a skin sensitizer, the recommendation is made to declassify non-oxidized Gum Rosin (CAS # 8050-09-7).

TF - Tacky Flux & rosin, reaction products with acrylic acid, hydrogenated

The following information refers to contact allergens as a group and may not be specific to this product.

Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.

Different rosin types are used interchangeably and are often chemically modified.. Colophony (rosin) is the nonvolatile fraction of the exudates from coniferous trees, and its main constituent is abietic acid. Abietic acid has been described as the allergenic constituent. Because it is not an electrophile, its sensitizing capacity was questioned when investigations regarding the allergenic properties of colophony started many years ago. It was found that highly purified abietic acid is nonallergenic but rapidly autooxidises forming a hydroperoxide which subsequently was identified as a major allergen of colophony . A variety of other oxidation products from abietic acid and dehydroabietic acid (the other major resin acid in colophony) were isolated and identified, some of which were shown to be sensitizers in guinea pig studies.

Clinical investigations have shown that patch testing with the hydroperoxide detects about 50% of the patients with contact allergy to colophony. Abietic acid, a rosin acid, is converted into a highly reactive hydroperoxide by contact with air.

Unmodified colophony is a complex mixture of diterpenoid acids (i.e., resin acids, ca. 90%), diterpene alcohols, aldehydes, and hydrocarbons To cause sensitization, a chemical must bind to macromolecules (proteins) in the skin (producing so-called haptentation). Hydroperoxy resin acids are dermal sensitizers, with haptentation thought to occur via radical mechanisms. Conjugation of L-lysine to the resin is predicted, with a Schiff base (or imine) linkage formed between the C-7 of the resin and the free amino group of lysine. Resin acids accumulate in the plasma membrane, a non-aqueous environment apparently conducive to conjugation of hydroperoxy resin acids with lysine side chains of membrane proteins, through covalent binding. Such binding might lead to interaction with immune cells having resin acid specificity. The haptentation mechanism may be involved in allergic contact dermatitis and occupational asthma observed from exposure to resin acid solids and aerosols.

For a better understanding of the mechanisms of contact allergic reactions, the patterns of cross-reactivity between different resin acid oxidation products were studied. The 13,14(alpha)-epoxide and the 13,14(beta)-epoxide of abietic acid and 15-hydroperoxydehydroabietic acid (15-HPDA) were shown in experimental sensitization studies to be contact allergens. Cross-reactivity was observed between the alpha- and beta-epoxides and also between the epoxides and the previously identified rosin allergen 15-hydroperoxyabietic acid (15-HPA). This indicates that 15-HPA may form an epoxide which then reacts with skin protein to generate the complete antigen. 15-HPA and 15-HPDA cross-reacted as well. This can be explained by the formation of similar alkoxy radicals from both hydroperoxides which further react with skin protein. Cross-reactivity patterns of the resin acid oxidation products indicate that 15-HPA may react with skin proteins either as a radical or as an epoxide, thus generating different antigens. The presence in rosin of the epoxides of abietic acid was also studied. The beta-epoxide was detected in gum rosin. Moreover, the epoxides elicited reactions in rosin-allergic individuals. Thus, the 13,14(beta)-epoxide of abietic acid was identified as a new, important rosin allergen.

TF - Tacky Flux

Acute Toxicity	✓	Carcinogenicity	✗
Skin Irritation/Corrosion	✓	Reproductivity	✗
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✓
Respiratory or Skin sensitisation	✓	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

TF - Tacky Flux	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available

rosin, reaction products with acrylic acid, hydrogenated	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	EC50	72h	Algae or other aquatic plants	>0.452mg/l	2
	NOEC(ECx)	72h	Algae or other aquatic plants	>=0.452mg/l	2
	EC50	48h	Crustacea	>1mg/l	2
	LC50	96h	Fish	>0.598mg/l	2

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

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

For Ethelene Glycol Monoalkyl Ethers and their Acetates:

log BCF: 0.463 to 0.732;

LC50 : 94 to > 5000 mg/L. (aquatic species).

Members of this category include ethylene glycol propyl ether (EGPE), ethylene glycol butyl ether (EGBE) and ethylene glycol hexyl ether (EGHE).

Environmental Fate: Aquatic Fate - The ethers possess no functional groups that are readily subject to hydrolysis in the presence of waters. The acetates possess an ester group that hydrolyses in neutral ambient water under abiotic conditions. Will partition predominately to water and, to a lesser extent, to air and soil. Soil - Highly mobile in soil.

Ecotoxicity: Ethelene glycol monoalkyl ethers and their acetates are readily biodegradable. The physical chemistry and environmental fate properties indicate that category members will not persist or bioconcentrate in the environment. Glycol ether acetates do not hydrolyze rapidly into their corresponding glycol ethers in water under environmental conditions. Glycol ether acetates are not acutely toxic to fish, specifically, zebra fish, rainbow trout and water fleas. Population changes were noted in freshwater and green algae species.

For Glycol Ethers:

Environmental Fate: Several glycol ethers have been shown to biodegrade however; biodegradation slows as molecular weight increases. No glycol ethers that have been tested demonstrate marked resistance to biodegradative processes. No glycol ethers that have been tested demonstrate marked resistance to biodegradative processes.

Atmospheric Fate: Upon release to the atmosphere by evaporation, high boiling glycol ethers are estimated to undergo photo-degradation (atmospheric half lives = 2.4-2.5 hr).

Aquatic Fate: In water, glycol ethers undergo biodegradation (typically 47-92% after 8-21 days) and have a low potential for bioaccumulation (log Kow ranges from -1.73 to +0.51).

Ecotoxicity: Tri- and tetra ethylene glycol ethers are "practically non-toxic" to aquatic species. No major differences are observed in the order of toxicity going from the methyl- to the butyl ethers. Glycols exert a high oxygen demand for decomposition and once released to the environment death of aquatic organisms occurs if dissolved oxygen is depleted.

For Rosins:

Environmental Fate: Resin, (rosin), acids, a class of wood extractives, are potential toxic constituents in many pulp and paper mill effluents.

Atmospheric Fate: If released to air, a low amount of the substance is expected to remain in air and will not persist. If released solely to air, it will not tend to remain in this compartment; the major two compartments in which this substance will partition will be soil and sediment. These substances are expected to oxidize and are not expected to react with atmospheric ozone. Reactions with hydroxyl radicals will be the most important fate process in the atmosphere.

Terrestrial Fate: If released to soil, resins/rosins are expected to be relatively immobile. The substances are not expected to evaporate from moist/dry soil surfaces. Therefore, if released to soil, these substances will mainly remain in this environmental compartment.

Aquatic Fate: Wood-derived resin acids will readily biodegrade under both oxygenated and low oxygen conditions in water and sediments, although the rate of degradation appears quite variable, depending on site conditions. If released into water, these substances are expected to strongly adsorb to suspended solids and sediment. Thus, if water is a receiving medium, these substances are expected to mainly partition into sediment and remain in water.

Ecotoxicity: Resin acids, and their aromatized derivative retene, can be long-lasting sources to deep water organisms. Dredging, or other human actions, can liberate these potential toxicants, even from deep sediments, to an aqueous phase with harmful consequences to aquatic species. Accumulation of the substance in aquatic species is expected to occur. These substances have low to moderate toxicity to fish. The substances have low toxicity to Daphnia magna water fleas and are moderately toxic to Selenastrum capricornutum algae.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
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Bioaccumulative potential

Ingredient	Bioaccumulation
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Mobility in soil

Ingredient	Mobility
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Continued...

Other adverse effects

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


SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> • Containers may still present a chemical hazard/ danger when empty. • Return to supplier for reuse/ recycling if possible. <p>Otherwise:</p> <ul style="list-style-type: none"> • If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. • Where possible retain label warnings and SDS and observe all notices pertaining to the product. • DO NOT allow wash water from cleaning or process equipment to enter drains. • It may be necessary to collect all wash water for treatment before disposal. • In all 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 or consult manufacturer for recycling options. • Consult State Land Waste Authority for disposal. • Bury or incinerate residue at an approved site. • Recycle containers if possible, or dispose of in an authorised landfill.
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SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	
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Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

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
Proprietary Ingredient	Not Available
Proprietary Ingredient	Not Available
rosin, reaction products with acrylic acid, hydrogenated	Not Available
Proprietary Ingredient	Not Available
Proprietary Ingredient	Not Available
Proprietary Ingredient	Not Available
Proprietary Ingredient	Not Available
Proprietary Ingredient	Not Available
Proprietary Ingredient	Not Available

14.7.3.

Product name	Ship Type
Proprietary Ingredient	Not Available
Proprietary Ingredient	Not Available
rosin, reaction products with acrylic acid, hydrogenated	Not Available
Proprietary Ingredient	Not Available
Proprietary Ingredient	Not Available
Proprietary Ingredient	Not Available
Proprietary Ingredient	Not Available
Proprietary Ingredient	Not Available
Proprietary Ingredient	Not Available

SECTION 15 REGULATORY INFORMATION

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

PROPRIETARY INGREDIENT IS FOUND ON THE FOLLOWING REGULATORY LISTS

- US DOE Temporary Emergency Exposure Limits (TEELs)
- US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

PROPRIETARY INGREDIENT IS FOUND ON THE FOLLOWING REGULATORY LISTS

- US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

ROSIN, REACTION PRODUCTS WITH ACRYLIC ACID, HYDROGENATED IS FOUND ON THE FOLLOWING REGULATORY LISTS

- US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

PROPRIETARY INGREDIENT IS FOUND ON THE FOLLOWING REGULATORY LISTS

- US TSCA Section 5(a)(2) - Significant New Use Rules (SNURs)
- US DOE Temporary Emergency Exposure Limits (TEELs)
- US TSCA Section 12(b) - List of Chemical Substances Subject to Export Notification Requirements
- US EPCRA Section 313 Chemical List
- US New York City Community Right-to-Know: List of Hazardous Substances
- US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
- US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants
- US - Pennsylvania - Hazardous Substance List

PROPRIETARY INGREDIENT IS FOUND ON THE FOLLOWING REGULATORY LISTS

- US DOE Temporary Emergency Exposure Limits (TEELs)
- US EPCRA Section 313 Chemical List
- US New York City Community Right-to-Know: List of Hazardous Substances
- US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
- US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants
- US - Pennsylvania - Hazardous Substance List

PROPRIETARY INGREDIENT IS FOUND ON THE FOLLOWING REGULATORY LISTS

- US OSHA Permissible Exposure Limits (PELs) Table Z-1
- US OSHA Permissible Exposure Limits (PELs) Table Z-3
- US NIOSH Recommended Exposure Limits (RELs)
- International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
- US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
- US - Alaska Air Quality Control - Concentrations Triggering an Air Quality Episode for Air Pollutants Other Than PM-2.5

PROPRIETARY INGREDIENT IS FOUND ON THE FOLLOWING REGULATORY LISTS

- US DOE Temporary Emergency Exposure Limits (TEELs)
- US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

PROPRIETARY INGREDIENT IS FOUND ON THE FOLLOWING REGULATORY LISTS

- US DOE Temporary Emergency Exposure Limits (TEELs)
- US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

PROPRIETARY INGREDIENT IS FOUND ON THE FOLLOWING REGULATORY LISTS

- US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

ECHA SUMMARY

Ingredient	CAS number	Index No	ECHA Dossier
Proprietary Ingredient	Not Available	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Eye Irrit. 2	GHS07; Wng	H319
2	Skin Irrit. 2; Eye Dam. 1; Skin Sens. 1; STOT SE 3; STOT SE 3; Carc. 2; Repr. 2	GHS05; Dgr; GHS08	H315; H318; H317; H335; H336; H351; H361

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

Ingredient	CAS number	Index No	ECHA Dossier
Proprietary Ingredient	Not Available	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Eye Irrit. 2	GHS07; Wng	H319
2	Skin Corr. 1A; Eye Dam. 1	GHS05; Dgr	H314; H318; H335

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

Ingredient	CAS number	Index No	ECHA Dossier
rosin, reaction products with acrylic acid, hydrogenated	144413-22-9	607-682-00-4	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Aquatic Chronic 4		H413

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2	Aquatic Chronic 4		H413
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Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
Proprietary Ingredient	Not Available	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	Not Available	Not Available
2	Flam. Liq. 3; Eye Irrit. 2; STOT SE 3; Repr. 2; STOT RE 2	Wng; GHS02; GHS08	H315; H319; H335; H226; H361; H373

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

Ingredient	CAS number	Index No	ECHA Dossier
Proprietary Ingredient	Not Available	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Acute Tox. 4; Eye Irrit. 2	GHS07; Wng	H302; H319
2	Acute Tox. 4; Eye Dam. 1; STOT SE 3; Skin Irrit. 2; Flam. Liq. 3; Repr. 2; Muta. 2; Carc. 2	GHS05; Dgr; GHS09; GHS06	H302; H318; H335; H315; H351
1	Skin Irrit. 2; Eye Irrit. 2	GHS07; Wng	H315; H319
2	Acute Tox. 4; Eye Dam. 1; Skin Irrit. 2; STOT SE 3	GHS05; Dgr	H302; H318; H315; H332; H341; H350; H373; H412; H335

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

Ingredient	CAS number	Index No	ECHA Dossier
Proprietary Ingredient	Not Available	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Aquatic Chronic 4		H413
2	Aquatic Chronic 2	GHS09; Wng	H411

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

Ingredient	CAS number	Index No	ECHA Dossier
Proprietary Ingredient	Not Available	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Acute Tox. 4; Eye Dam. 1; Aquatic Acute 1	GHS09; GHS05; Dgr	H302; H318; H400
2	Acute Tox. 4; Eye Dam. 1; Aquatic Acute 1; Skin Irrit. 2; Aquatic Chronic 1	GHS09; GHS05; Dgr	H302; H318; H400; H315; H410; H317

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

Ingredient	CAS number	Index No	ECHA Dossier
Proprietary Ingredient	Not Available	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Eye Irrit. 2; Aquatic Chronic 3	GHS07; Wng	H319; H412
2	Skin Sens. 1B; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; Skin Irrit. 2; STOT SE 3; STOT RE 2; Acute Tox. 4; Acute Tox. 2	GHS05; Dgr; GHS09; GHS08; GHS06	H317; H318; H400; H410; H315; H335; H373; H302; H310

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

Ingredient	CAS number	Index No	ECHA Dossier
Proprietary Ingredient	Not Available	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	Not Available	Not Available
2	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3	GHS07; Wng	H315; H319; H335

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

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SECTION 311/312 HAZARD CATEGORIES

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	Yes
Reproductive toxicity	No
Skin Corrosion or Irritation	Yes
Respiratory or Skin Sensitization	Yes
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES (40 CFR 302.4)

None Reported

US. EPCRA SECTION 313 TOXIC RELEASE INVENTORY (TRI) (40 CFR 372)

This product contains the following EPCRA section 313 chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know-Act of 1986 (40 CFR 372):

CAS No	%[weight]	Name
Not Available		Proprietary Ingredient
Not Available		Proprietary Ingredient

This information must be included in all SDSs that are copied and distributed for this material.

State Regulations**US. CALIFORNIA PROPOSITION 65**

None Reported

National Inventory Status

National Inventory	Status
Australia - AIIIC / Australia Non-Industrial Use	No (rosin, reaction products with acrylic acid, hydrogenated)
Canada - DSL	No (rosin, reaction products with acrylic acid, hydrogenated)
Canada - NDSL	No (Proprietary Ingredient, Proprietary Ingredient, Proprietary Ingredient, Proprietary Ingredient, Proprietary Ingredient, Proprietary Ingredient, Proprietary Ingredient)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (rosin, reaction products with acrylic acid, hydrogenated)
Korea - KECI	Yes
New Zealand - NZIoC	No (rosin, reaction products with acrylic acid, hydrogenated)
Philippines - PICCS	No (rosin, reaction products with acrylic acid, hydrogenated)
USA - TSCA	Yes
Taiwan - TCSI	Yes

Continued...

Mexico - INSQ	No (rosin, reaction products with acrylic acid, hydrogenated, Proprietary Ingredient, Proprietary Ingredient)
Vietnam - NCI	Yes
Russia - FBEPH	No (Proprietary Ingredient, rosin, reaction products with acrylic acid, hydrogenated, Proprietary Ingredient)
Legend:	<i>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.</i>

SECTION 16 OTHER INFORMATION

Revision Date	03/21/2025
Initial Date	03/21/2025

SDS Version Summary

Version	Issue Date	Sections Updated
03-25	03/22/2025	Hazards identification - Classification, Identification of the substance / mixture and of the company / undertaking - Supplier Information

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.

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
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
- MARPOL: International Convention for the Prevention of Pollution from Ships
- IMSBC: International Maritime Solid Bulk Cargoes Code
- IGC: International Gas Carrier Code
- IBC: International Bulk Chemical Code
- 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

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