



SAFETY DATA SHEET

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Revised edition no : 00

P-523 SOLDERING FLUID

Effective Date: 17.3.2019

1 Identification of the Product and the company

Chemical Name : Soldering Fluid
Type of product chemical family : N/A
Manufacturer : TLC-KOYA CHEMICALS MANUFACTURING SDN BHD
No.22 & 23, Jalan Maju 1,
Cemerlang Industrial Estate,
81800 Ulu Tiram, Johor, Malaysia.
Tel: 607-8675798 Fax: 607-8675799
Website: www.koyachemicals.com Email: admin@koyachemicals.com
Emergency phone nr : See Distributor

2 Hazards Identification

Hazard Pictogram



Signal Word: Danger

Classification

Skin corrosion or irritation	Category 1
Specific target organ toxicity - single exposure	Category 3
Acute Toxicity (Oral)	Category 4
Serious eye damage	Category 1
Acute Aquatic Hazard	Category 1
Chronic Aquatic Hazard	Category 1

Hazard Statement

H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H400 - Very toxic to aquatic life.
H410 - very toxic to aquatic life with long lasting effects.

Precautionary Statement - Prevention

P260 - Do not breathe dust/fumes/gas/mist/vapours/spray.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement - Response

P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor / physician if you feel unwell.
P303+P361+P353 - IF ON SKIN(on hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310 - Immediately call a POISON CENTER or doctor / physician.
P321 -Specific treatment (see...on this label)

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P363 - Wash contaminated clothing before reuse.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P391 - Collect spillage.

Precautionary Statement - Storage

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

P405 - Store locked up.

Precautionary Statement - Disposal

P501 - Dispose of contents/container in accordance with regulations made under the control of Pollution & Environmental Protection Acts.

3 Composition / Hazardous Components

Chemical Name	Cas No	%
Hydrochlorid acid	7647-01-0	< 10%
Zinc Chloride	7646-85-7	< 10%

4 First-Aid Measures

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. 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.
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.
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.
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.

Indication of any immediate medical attention and special treatment needed

For acute or short term repeated exposures to strong acids:

Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially. Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling. Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise. Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the dessicating action of the acid on proteins in specific tissues.

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INGESTION:

Immediate dilution (milk or water) within 30 minutes post ingestion is recommended. DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury. Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult. Charcoal has no place in acid management. Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping. Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE:

Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes. DONOT use neutralising agents or any other additives. Several litres of saline are required. Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury. Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

5 Fire Fighting Measures

Extinguishing media	Water spray or fog. Foam. Dry chemical powder. BCF (where regulations permit). Carbon dioxide.
Advice for firefighters	Fire Fighting Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use fire fighting procedures suitable for surrounding area. Do not approach containers suspected to be hot.
Fire/Explosion Hazard	Non combustible. Not considered to be a significant fire risk. Acids may react with metals to produce hydrogen, a highly flammable and explosive gas. Heating may cause expansion or decomposition leading to violent rupture of containers. May emit corrosive, poisonous fumes. May emit acrid smoke. Decomposition may produce toxic fumes of., hydrogen chloride, metal oxides

6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Minor Spills	Remove all ignition sources. Clean up all spills immediately. Avoid contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Use dry clean up procedures and avoid generating dust. Place in a suitable, labelled container for waste disposal. 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. 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). Stop leak if safe to do so. Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling. 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.

7 Handling and Storage

Precautions for safe handling

Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Avoid contact with moisture. 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.

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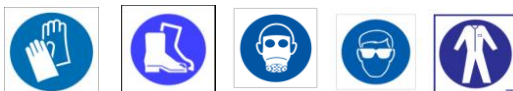


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Other information	Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.
Suitable container	DO NOT use aluminium or galvanised containers. Check regularly for spills and leaks. Glass container is suitable for laboratory quantities. 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 low pressure tubes and cartridges may be used. - Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.

8 Exposure Control / Personal Protection

Personal protection



Eye and face protection:	Chemical goggles. 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 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], [AS/NZS 1336 or national equivalent]
Skin protection	See Hand protection below
Hands/feet protection	<p>Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber</p> <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: frequency and duration of contact, chemical resistance of glove material, glove thickness and dexterity</p> <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. 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. 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.</p>

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Body protection	See Other protection below
Other protection	Overalls. PVC Apron. PVC protective suit may be required if exposure severe. Eyewash unit. Ensure there is ready access to a safety shower
Thermal hazards	Not Available
Respiratory protection	Type B-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

9 Physical and Chemical Properties

Appearance	: clear, colorless liquid
Specific Gravity	: 1.1
PH	: <1

10 Stability and Reactivity

Stability	Stable.
Decomposition Products:	Carbon monoxide, carbon dioxide, hydrogen chloride, nitrogen and zinc oxides, and ammonia.
Materials with which substance is incompatible :	Strong oxidizers, acids, alkalis and their carbonates, hydrogen cyanide, interhalogens, ammonium nitrate, potassium chlorate, lead and silver salts.
Hazardous Polymerization:	Will not occur.
Conditions to avoid :	Extreme temperatures, incompatible materials.

11 Toxicological Information

TOXICITY DATA: Human toxicological data are available for the components of this product, as listed below. Other data for animals are available but are not presented in this Safety Data Sheet.

HYDROCHLORIC ACID: LCLo (inhalation, human) = 1300 ppm/ 30 minutes
LCLo (inhalation, human) = 3000 ppm/ 5 minutes
LDLo (unreported, man) = 81 mg/kg

ZINC CHLORIDE: DNA Inhibition System (human, lymphocyte) = 0.360 mmol/L
TCLo (inhalation, man) = 4800 mg/m³ / 30 minutes; pulmonary effects
TCLo (inhalation, human) = 4800 mg/m³ / 3 hours

SUSPECTED CANCER AGENT: The components of this product are listed as follows:
HYDROCHLORIC ACID: IARC-3 (Not Classifiable as to Carcinogenicity to Humans)
ZINC CHLORIDE: EPA-D Not Classifiable as to Human Carcinogenicity)

The other components of this product are not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, and CAL/OSHA, and therefore are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This product can severely irritate and burn contaminated tissue.

SENSITIZATION TO THE PRODUCT: It has been reported that a worker developed asthmatic symptoms after performing soldering work with a flux containing Zinc Chlorides (components of this product).

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this product on the human reproductive system.

Mutagenicity: This product is not reported to produce mutagenic effects in humans.

Embryotoxicity: This product is not reported to produce embryotoxic effects in humans.

Teratogenicity: This product is not reported to cause teratogenic effects in humans.

Reproductive Toxicity: This product is not reported to cause adverse reproductive effects in humans.

12 Ecological Information

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

Environmental Stability: The components of this product will decompose under normal environmental conditions.

Effect of material on plants or animals: This product can be harmful to plant and animal life.

Effect of chemical on aquatic life: Large releases of this product may be harmful or fatal to exposed aquatic life.

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13 Disposal Considerations

Waste treatment methods

Product / Packaging disposal

Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible.

Otherwise: 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. 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. 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. In most instances the supplier of the material should be consulted. 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. 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: Mixing or slurring in water; Neutralisation with soda-lime or soda-ash followed by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material) Decontaminate empty containers with 5% aqueous sodium hydroxide or soda ash, followed by water. Observe all label safeguards until containers are cleaned and destroyed.

14 Transport Information

This material is hazardous

Proper Shipping Name : Corrosive liquids, n.o.s. (Zinc Chloride, Hydrochloric Acid)

Hazard class number and description : 8 (Corrosive)

UN Identification number ; UN 1760

Packing Group : III

15 Regulatory Information

U.N.GHS Classification & Labelling Information:

Classification

Skin corrosion or irritation	Category 1
Specific target organ toxicity - single exposure	Category 3
Acute Toxicity (Oral)	Category 4
Serious eye damage	Category 1
Acute Aquatic Hazard	Category 1
Chronic Aquatic Hazard	Category 1

Signal Word : Danger

Other information: reference to Section 2

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16 Other Information

Further information : None
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N/A - Not Applicable N/D - Not Determined

All recommendations for the use of our products, whether given by us in writing, orally, or to be implied from data or test results obtained by us, are based on the current state of our knowledge at the time such recommendations are made. When additional information is obtained, these recommendations may be updated. They may also be influenced by circumstances outside our control. Notwithstanding such recommendations, the user is responsible to determine that the product as supplied by us, is suitable for the process or purpose he intends to use it. The user of the product is solely for compliance with all laws and regulation applying to the use of the product. Since we cannot control the application, use or processing of the products, we do not accept responsibility therefore. The user shall ensure that the intended use of the products will not infringe in any party's intellectual property rights.

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