

1. Identification

Product identifier **Worthington Petroleum Based Soldering Flux**

Other means of identification

Product code WC016

Recommended use Soldering flux.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier Worthington Cylinder Corporation

Address 200 Old Wilson Bridge Road

Columbus, OH 43085

United States

Email: cylinders@worthingtonindustries.com

Telephone Number: 866-928-2657

CHEMTREC - 24 HOURS:

Within US and Canada 800-424-9300

Outside US and Canada +1 703-741-5970 (collect calls accepted)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Acute toxicity, oral	Category 4
Skin corrosion/irritation	Category 1B
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation

Environmental hazards

Hazardous to the aquatic environment, acute hazard	Category 1
Hazardous to the aquatic environment, long-term hazard	Category 1

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Harmful if swallowed. Causes severe skin burns and eye damage. May cause respiratory irritation. Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well ventilated area. Avoid release to the environment.

Response Immediately call a poison center/doctor. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

Contact with eyes may cause irritation.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Petrolatum	8009-03-8	70-75
Zinc chloride	7646-85-7	25-30

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.

Skin contact Remove and isolate contaminated clothing and shoes. Immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately. Wash clothing separately before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion If swallowed, rinse mouth with water (only if the person is conscious). Never give anything by mouth to a victim who is unconscious or is having convulsions. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.

Most important symptoms/effects, acute and delayed Causes skin and eye burns.

Indication of immediate medical attention and special treatment needed Treat symptomatically.

General information Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media Dry chemical, foam, carbon dioxide.

Unsuitable extinguishing media None.

Specific hazards arising from the chemical Fire may produce irritating, corrosive and/or toxic gases.

Special protective equipment and precautions for firefighters Firefighters should wear full protective clothing including self contained breathing apparatus.

Fire fighting equipment/instructions Move containers from fire area if you can do it without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards Will release small amounts of HCL upon decomposition.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spills cannot be contained.

Methods and materials for containment and cleaning up Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Neutralize with soda ash or sodium bicarbonate. Dilute with plenty of water. Dispose of in accordance with EPA regulations.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not contaminate water.

7. Handling and storage

Precautions for safe handling Wear appropriate personal protective equipment (See Section 8). Use only with adequate ventilation. Do not breathe fumes and dusts. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store in plastic containers in cool area away from heat. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Zinc chloride (CAS 7646-85-7)	PEL	1 mg/m ³	Fume.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Zinc chloride (CAS 7646-85-7)	STEL	2 mg/m ³	Fume.
	TWA	1 mg/m ³	Fume.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Zinc chloride (CAS 7646-85-7)	STEL	2 mg/m ³	Fume.
	TWA	1 mg/m ³	Fume.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

Use personal protective equipment as required. Keep working clothes separately.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear approved safety glasses or goggles.

Skin protection

Hand protection

Wear protective gloves.

Other

Wear suitable protective equipment.

Respiratory protection

Use a respirator when local exhaust or ventilation is not adequate to keep exposures below the OEL. In a confined space a supplied respirator may be required. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Reddish brown paste.

Physical state

Semi-solid.

Form

Paste.

Color

Reddish-brown

Odor

Slight petroleum odor.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

100 °F (37.78 °C)

Initial boiling point and boiling range

Not Available

Flash point

360.0 - 430.0 °F (182.2 - 221.1 °C)

Evaporation rate

Not applicable.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.

Vapor pressure	Not Available
Vapor density	Not applicable.
Relative density	0.9
Solubility(ies)	
Solubility (water)	Not soluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not Available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Chlorine. Turpentine. Potassium. Cyanides. Sulfides. Powdered zinc.
Hazardous decomposition products	Chlorine. Hydrogen chloride. Carbon monoxide.

11. Toxicological information**Information on likely routes of exposure**

Inhalation	Corrosive to the respiratory tract.
Skin contact	Causes skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Harmful if swallowed. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.

Symptoms related to the physical, chemical and toxicological characteristics	Causes skin and eye burns.
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Information on toxicological effects

Acute toxicity	Causes burns. Harmful if swallowed. Exposure to high levels of zinc chloride fume may cause pulmonary edema.
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Components	Species	Test Results
Zinc chloride (CAS 7646-85-7)		
Acute		
<i>Oral</i>		
LD50	Mouse	350 mg/kg
Skin corrosion/irritation	Causes skin burns.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	Not classified.	
Skin sensitization	Not classified.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure May cause respiratory tract irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not likely, due to the form of the product.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Components		Species	Test Results
Zinc chloride (CAS 7646-85-7)			
Aquatic			
Crustacea	EC50	American or virginia oyster (Crassostrea virginica)	0.1511 - 0.2782 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss)	0.101 - 0.197 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. Disposal considerations

Disposal instructions Dispose waste and residues in accordance with applicable federal, state, and local regulations.

Local disposal regulations Dispose of in accordance with local regulations.

Hazardous waste code D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]

Waste from residues / unused products Dispose in accordance with all applicable regulations.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number UN1760

UN proper shipping name Corrosive liquids, n.o.s. (Zinc chloride RQ = 3953 LBS)

Transport hazard class(es)

Class 8

Subsidiary risk -

Label(s) 8

Packing group III

Environmental hazards

Marine pollutant Yes

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions IB3, T7, TP1, TP28

Packaging exceptions 154

Packaging non bulk 203

Packaging bulk 241

IATA

UN number UN1760

UN proper shipping name Corrosive liquid, n.o.s. (Zinc chloride)

Transport hazard class(es)

Class 8

Subsidiary risk -

Label(s) 8

Packing group III
Environmental hazards Yes
ERG Code 8L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1760
UN proper shipping name CORROSIVE LIQUID, N.O.S. (Zinc chloride)
Transport hazard class(es)
Class 8
Subsidiary risk -
Label(s) 8
Packing group III
Environmental hazards
Marine pollutant Yes
EmS F-A, S-B
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Zinc chloride (CAS 7646-85-7) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Zinc chloride	7646-85-7	25-30

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Zinc chloride (CAS 7646-85-7)

US. New Jersey Worker and Community Right-to-Know Act

Zinc chloride (CAS 7646-85-7)

US. Pennsylvania Worker and Community Right-to-Know Law

Zinc chloride (CAS 7646-85-7)

US. Rhode Island RTK

Zinc chloride (CAS 7646-85-7)

US. California Proposition 65

Not Listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	28-May-2015
Revision date	-
Version #	01
Further information	HMIS® is a registered trade and service mark of the NPCA.
HMIS® ratings	Health: 3 Flammability: 1 Physical hazard: 0

NFPA ratings**Disclaimer**

All information in this Material Safety Data Sheet is believed to be accurate and reliable. However, no guarantee or warranty of any kind is made with regard to the accuracy of information or the suitability of the recommendations contained herein. It is the user's responsibility to assess the safety and toxicity of this product under their own conditions of use and to comply with all applicable laws and regulations.