Harrell Industries, Inc.

SAFETY DATA SHEET

Issue Date 23-Apr-2015 **Revision Date** 23-Apr-2015 **Version** 1

1. IDENTIFICATION

Product identifier

Product Name ortho-Cresol / Chloroform 70/30% Fresh

Other means of identification

Product Code 4805
UN/ID no. UN2927
Synonyms For ortho-cresol: o-cresol; 2-methylphenol; For Chloroform: Trichloromethane: Methyl trichloride; Methane trichloride

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory chemicals.
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
Harrell Industries, Inc.
2495 Commerce Drive
Rock Hill, SC 29730

www.harrellindustries.com

Emergency telephone number

Company Phone Number 803-327-6335
Fax Number 803-327-7808
24 Hour Emergency Phone Number 800 633-8253 (PERS)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label elements

Emergency Overview

Danger

Hazard statements
Harmful if swallowed
Harmful if inhaled
Harmful in contact with skin
Causes severe skin burns and eye damage

Appearance Clear colorless yellowish **Physical state** liquid **Odor** Characteristic, ethereal and

phenol-like

Precautionary Statements - Prevention
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
Not applicable

Unknown acute toxicity 100% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Synonyms For ortho-cresol: o-cresol; 2-methylphenol;, For Chloroform: Trichloromethane: Methyl trichloride; Methane trichloride.
Formula Not applicable to mixtures

Chemical Name	CAS No.	Weight-%
o-Cresol	95-48-7	70.00
Chloroform	67-66-3	30.00

4. FIRST AID MEASURES

Description of first aid measures

Eye contact For othro-Cresol and Chloroform: Causes skin irritation resulting in redness and pain. Removes natural oils. May be absorbed through the sknin.

Skin contact For ortho-Cresol and Chloroform: Causes skin irritation resulting in redness and pain. Removes natural oils. May be absorbed through the skin.

Inhalation For Ortho-Cresol and Chloroform: Acts as a relatively potent anesthetic. Irrigates respiratory tract and causes central nervous system effects, including headache, drowsiness, and dizziness. Exposure to higher concentrations may result in unconsciousness and even death. May cause liver injury and blood disorders. Prolonged exposure may lead to death due to irregular heartbeat and kidney and liver disorders.

Ingestion For ortho-Cresol: Causes severe pain in the mouth and throat. Ingestion leads to burning pain in the mouth and abdominal pain, vomiting, and bloody diarrhea. Victim nay go into shock. Possible delirium followed by unconsciousness. If death does not result, kidney damage may occur. Large quantities may cause symptoms similar to inhalations. For Chloroform: Causes severe burning in mouth and throat, pain in the chest and vomiting. Large quantities may cause symptoms similar to inhalation.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray may be used to keep fire exposed containers cool.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
No information available.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert substance and place in a chemical waste container. Do not use combustibles such as sawdust. Do not flush in sewer.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep in tightly closed container, stored in a cool, dry, ventilated area away from sources of heat, moisture, and incompatibles.

Incompatible materials Strong caustics and chemically active metals such as aluminum, magnesium powder, sodium, or potassium; acetone, fluorine, methanol, sodium methoxide and dinitrogen tetroxide, tert-butoxide, triisopropylphosphine. Strong oxidizing agents and halogens. Corrosive to any metal, including aluminum, lead, magnesium, and zinc. Chloroform: Strong caustics and chemically active metals such as aluminum, magnesium powder, sodium, or potassium; acetone, fluorine, methanol, sodium methoxide, dinitrogen tetroxide, tert-butoxide, triisopropylphosphine.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
o-Cresol 95-48-7	TWA: 20 mg/m³ inhalable fraction and vapor S*	-	IDLH: 250 ppm TWA: 2.3 ppm TWA: 10 mg/m³
Chloroform 67-66-3	TWA: 10 ppm	(vacated) TWA: 2 ppm (vacated) TWA: 9.78 mg/m³ Ceiling: 50 ppm Ceiling: 240 mg/m³	IDLH: 500 ppm STEL: 2 ppm 60 min STEL: 9.78 mg/m³ 60 min

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Use chemical safety goggles and/or full face shield. Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid		
Appearance	Clear colorless yellowish	**Odor**	Characteristic, ethereal and phenol-like
Color	Yellowish	**Odor threshold**	No information available

Property	Values	Remarks • Method
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Relative density	1.150@25C	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under ordinary conditions of use and storage. The pH decreases on prolonged exposure to light and air due to formation of HCI from Chloroform.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization Will not occur.

Conditions to avoid
Incompatible materials. Heat. light. air.

Incompatible materials
Strong caustics and chemically active metals such as aluminum, magnesium powder, sodium, or potassium; acetone, fluorine, methanol, sodium methoxide and dinitrogen tetroxide, tert-butoxide, triisopropylphosphine. Strong oxidizing agents and halogens. Corrosive to any metal, including aluminum, lead, magnesium, and zinc. Chloroform: Strong caustics and chemically active metals such as aluminum, magnesium powder, sodium, or potassium; acetone, fluorine, methanol, sodium methoxide, dinitrogen tetroxide, tert-butoxide, triisopropylphosphine.

Hazardous Decomposition Products
Hydrogen chloride, chlorine, phosgene, and carbon monoxide may be released upon heating to decomposition. Chloroform: May produce carbon monoxide, carbon dioxide, hydrogen chloride and phosgene when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information No data available

Inhalation Acts as a relatively potent anesthetic. Irritates respiratory tract and causes central nervous system effects, including headache, drowsiness, and dizziness. Exposure to higher concentrations may result in unconsciousness and even death. May cause liver injury and blood disorders. Prolonged exposure may lead to death due to irregular heartbeat and kidney and liver disorders.

Eye contact Eye Contact (for ortho-Cresol and Chloroform): Vapors cause pain and irritation to eyes. Splashes may cause severe irritation and possible eye damage. Chronic Exposure (for ortho-Cresol): Chronic overexposure may cause central nervous system depression and liver, kidney, pancreas, lung, and/or spleen damage.

Skin contact Causes skin irritation resulting in redness and pain. Removes natural oils. May be absorbed through the skin.

Ingestion Causes severe burning in mouth and throat, pain in the chest and vomiting. Large quantities may cause symptoms similar to inhalation.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
o-Cresol 95-48-7	= 121 mg/kg (Rat)	= 890 mg/kg (Rabbit)	> 1220 mg/m³ (Rat) 1 h
Chloroform 67-66-3	= 450 mg/kg (Rat) = 695 mg/kg (Rat)	> 20 g/kg (Rabbit)	= 47702 mg/m³ (Rat) 4 h

Information on toxicological effects

Symptoms For o-Cresol: Acute Effects: Material is extremely destructive to tissue of the mucous

membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation, and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Can cause Central Nervous System depression. Exposure can cause: vomiting, diarrhea, headache, and gastrointestinal disturbances. Causes burns. Toxic if absorbed through skin. Readily absorbed through the skin. May be fatal if inhaled. Toxic if swallowed.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization
Germ cell mutagenicity
Carcinogenicity

Chemical Name	ACGIH	IARC	NTP	OSHA
Chloroform 67-66-3	A3	Group 2A Group 2B Group 3	Reasonably Anticipated	X

Reproductive toxicity
STOT - single exposure
STOT - repeated exposure
Target Organ Effects liver, kidney, spleen, Central nervous system, Cardiovascular system, Pancreas, lungs.
Aspiration hazard

Numerical measures of toxicity - Product Information

12. ECOLOGICAL INFORMATION

Ecotoxicity

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is not expected to leach into groundwater. When released into the soil, this material may evaporate to a moderate extent. When released into the soil, this material is expected to have a half-life between 1 and 10 days. When released into water, this material is expected to readily biodegrade. When released into water, this material is not expected to evaporate significantly. When released into water, this material is expected to have a half-life between 10 and 30 days. This material has an estimated bioconcentration factor (BCF) of less than 100. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material may be moderately degraded by photolysis. When released into the air, this material is expected to have a half-life of less than 1 day. Environmental Toxicity (for Phenol): This material is expected to be toxic to aquatic life. The LC50/96-hour values for fish are between 10 and 100 mg/l.

100% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
o-Cresol 95-48-7	65: 96 h Pseudokirchneriella subcapitata mg/L EC50	9.72 - 15.92: 96 h Pimephales promelas mg/L LC50 flow-through 24: 96 h Brachydanio rerio mg/L LC50 11.5: 96 h Lepomis macrochirus mg/L LC50 18.37 - 24.21: 96 h Lepomis macrochirus mg/L LC50 static 8.4: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 14.07 - 23.61: 96 h Poecilia reticulata mg/L LC50 static	9.5: 48 h Daphnia magna mg/L EC50 15.8: 48 h Daphnia magna mg/L EC50 Static
Chloroform 67-66-3	560: 48 h Desmodesmus subspicatus mg/L EC50	71: 96 h Pimephales promelas mg/L LC50 flow-through 18: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 18: 96 h Lepomis macrochirus mg/L LC50 flow-through 300: 96 h Poecilia reticulata mg/L LC50 static	29: 48 h Daphnia magna mg/L EC50

Persistence and degradability

Bioaccumulation

Chemical Name	Partition coefficient
o-Cresol 95-48-7	1.95
Chloroform 67-66-3	2

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility.

Contaminated packaging Do not reuse container.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
o-Cresol 95-48-7	-	Included in waste stream: F039 Included in waste stream: K060	200.0 mg/L regulatory level	-
Chloroform 67-66-3	U044	Included in waste streams: F024, F025, F039, K009, K010, K019, K020, K021, K029, K073, K116, K149, K150, K151, K158	6.0 mg/L regulatory level	U044

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Chloroform 67-66-3	Category I - Volatiles	-	Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	Toxic waste waste number K021 Waste description: Aqueous spent antimony catalyst waste from fluoromethanes production.

Chemical Name	California Hazardous Waste Status
Chloroform 67-66-3	Toxic

14. TRANSPORT INFORMATION

DOT Regulated

- **UN/ID no.** UN2927
- **Proper shipping name** Toxic Liquids, Corrosive, Organic, N.O.S., (Ortho-Cresol/Chloroform Aged 70/30%)
- **Hazard Class** 6.1
- **Subsidiary class** (8),
- **Packing Group** II
- **Reportable Quantity (RQ)** 10 lbs (4.54 kg)

TDG	Regulated
UN/ID no.	UN2927
Proper shipping name	Toxic Liquids, Corrosive, Organic, N.O.S., (Ortho-Cresol/Chloroform Aged 70/30%)
Hazard Class	6.1
Subsidiary class	(8),
Packing Group	II
MEX	Regulated
UN/ID no.	UN2927
Proper shipping name	Toxic Liquids, Corrosive, Organic, N.O.S., (Phenol/Cresol)
Hazard Class	6.1
Subsidiary class	(8),
Packing Group	II
ICAO (air)	Regulated
UN/ID no.	UN2927
Proper shipping name	Toxic Liquids, Corrosive, Organic, N.O.S., (Phenol/Cresol)
Hazard Class	6.1
Subsidiary hazard class	(8),
Packing Group	II
IATA	Regulated
UN/ID no.	UN2927
Proper shipping name	Toxic Liquids, Corrosive, Organic, N.O.S.
Hazard Class	6.1
Subsidiary hazard class	(8),
Packing Group	II
IMDG	Regulated
UN/ID no.	UN2927
Proper shipping name	Toxic Liquids, Corrosive, Organic, N.O.S.
Hazard Class	6.1
Subsidiary hazard class	(8),
Packing Group	II
RID	Regulated
UN/ID no.	UN2927
Proper shipping name	Toxic Liquids, Corrosive, Organic, N.O.S., (Phenol/Cresol)
Hazard Class	6.1
Packing Group	II
ADR	Regulated
UN/ID no.	UN2927
Proper shipping name	Toxic Liquids, Corrosive, Organic, N.O.S., (Phenol/Cresol)
Hazard Class	6.1
Packing Group	II
ADN	Regulated
UN Number	UN2927
Proper shipping name	Toxic Liquids, Corrosive, Organic, N.O.S., (Phenol/Cresol)
Hazard Class	6.1
Packing Group	II

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Chemical Name	SARA 313 - Threshold Values %
o-Cresol - 95-48-7	1.0
Chloroform - 67-66-3	0.1

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
o-Cresol 95-48-7	-	-	-	X
Chloroform 67-66-3	10 lb	X	X	X

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
o-Cresol 95-48-7	100 lb	100 lb	RQ 100 lb final RQ RQ 45.4 kg final RQ
Chloroform 67-66-3	10 lb 1 lb	10 lb	RQ 10 lb final RQ RQ 4.54 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ

US State Regulations

California Proposition 65

Chemical Name	California Proposition 65
Chloroform - 67-66-3	Carcinogen Developmental

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
o-Cresol 95-48-7	X	X	X
Chloroform 67-66-3	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 3	**Flammability** 2	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 3	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Issue Date 23-Apr-2015
Revision Date 23-Apr-2015

Revision Note

No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet