

TEAM® Industrial Services
SAFETY DATA SHEET

1. Identification

Product identifier 2W Liquid Nuclear Grade

Other means of identification

Product code 805-0020

Recommended use Industrial Leak Sealant.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company name Team Industrial Services, Inc.

Address 200 Hermann Drive, Alvin, Texas 77511

Telephone Not available.

E-mail Not available.

Emergency phone number CHEMTREC - 24 HOURS: 800-424-9300 (USA)
International: +1 703-527-3887 (Collect)

2. Hazard(s) identification

Physical hazards Flammable liquids Category 3

Health hazards Acute toxicity, oral Category 4
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 1
Sensitization, skin Category 1
Germ cell mutagenicity Category 2
Specific target organ toxicity, repeated exposure Category 2 (Kidney, Liver, Skin, Nervous system)

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3
Hazardous to the aquatic environment, long-term hazard Category 3

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Flammable liquid and vapor. Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. Suspected of causing genetic defects. May cause damage to organs (Kidney, Liver, Skin, Nervous system) through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing must not be allowed out of the workplace. Do not breathe mist or vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

Response	If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If inhaled: Remove person to fresh air and keep comfortable for breathing. In case of fire: Use alcohol-resistant foam, carbon dioxide or dry powder for extinction.
Storage	Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Phenol-formaldehyde polymer	9003-35-4	50-80
Ethanol	64-17-5	10-25
m-Cresol	108-39-4	5-10
Phenol	108-95-2	1-5
p-Cresol	106-44-5	1-5
2,6-Xylenol	576-26-1	<1
Hexamethylenetetramine	100-97-0	<1
O-Ethylphenol	90-00-6	<1

Composition comments All concentrations are in percent by weight.

4. First-aid measures

Inhalation	Move into fresh air and keep at rest. If breathing stops, provide artificial respiration. Get medical attention if any discomfort continues. When cured: Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.
Skin contact	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.
Eye contact	Flush thoroughly with water for at least 15 minutes. Get immediate medical assistance. If medical assistance is not immediately available, flush an additional 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion	Rinse mouth thoroughly with water and give large amounts of milk or water, if person is conscious. Only induce vomiting at the instruction of medical personnel. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Obtain medical attention and take along these instructions.
Most important symptoms/effects, acute and delayed	Symptoms include redness, itching and pain. May cause permanent damage if eye is not immediately irrigated. Sensitization. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Treat symptomatically. Thermal burns: Flush with plenty of water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Be aware that symptoms of lung edema (shortness of breath) may develop up to 24 hours after exposure.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide or dry powder.

Unsuitable extinguishing media	No restrictions known.
Specific hazards arising from the chemical	Solvent vapors may form explosive mixtures with air. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire fighting equipment/instructions	Ventilate closed spaces before entering them. Containers should be cooled with water to prevent vapor pressure build up. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Evacuate area and fight fire from a safe distance. Stop leak if you can do so without risk. 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	The product is flammable.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Ensure adequate ventilation. Do not get in eyes. Avoid inhalation of vapors or mists. Avoid contact with skin. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Clean contaminated surface thoroughly. Sweep up or vacuum up spillage and collect in suitable container for disposal. Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Collect and dispose of spillage as indicated in Section 13 of the SDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water. Environmental manager must be informed of all major spillages.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only with adequate ventilation. Persons susceptible for allergic reactions should not handle this product. Do not get in eyes. Avoid inhalation of vapors or mists. Avoid contact with skin. The product is flammable, and heating may generate vapors which may form explosive vapor/air mixtures. Do not smoke and do not spray near a naked flame or other sources of ignition. Vapors are heavier than air and may travel along the floor and in the bottom of containers. Take precautionary measures against static discharges. Use personal protective equipment as required.
Conditions for safe storage, including any incompatibilities	Follow rules for flammable liquids. Keep away from heat, spark, open flames and other sources of ignition. Keep away from sources of ignition - No smoking. Store in a cool, dry, well-ventilated place. Store in a closed container 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
Ethanol (CAS 64-17-5)	PEL	1900 mg/m ³ 1000 ppm
m-Cresol (CAS 108-39-4)	PEL	22 mg/m ³ 5 ppm
p-Cresol (CAS 106-44-5)	PEL	22 mg/m ³ 5 ppm
Phenol (CAS 108-95-2)	PEL	19 mg/m ³ 5 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Ethanol (CAS 64-17-5)	STEL	1000 ppm	
m-Cresol (CAS 108-39-4)	TWA	20 mg/m ³	Inhalable fraction and vapor.
p-Cresol (CAS 106-44-5)	TWA	20 mg/m ³	Inhalable fraction and vapor.
Phenol (CAS 108-95-2)	TWA	5 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ethanol (CAS 64-17-5)	TWA	1900 mg/m3 1000 ppm
m-Cresol (CAS 108-39-4)	TWA	10 mg/m3 2.3 ppm
p-Cresol (CAS 106-44-5)	TWA	10 mg/m3 2.3 ppm
Phenol (CAS 108-95-2)	Ceiling	60 mg/m3 15.6 ppm
	TWA	19 mg/m3 5 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Phenol (CAS 108-95-2)	250 mg/g	Phenol with hydrolysis	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

m-Cresol (CAS 108-39-4)	Can be absorbed through the skin.
p-Cresol (CAS 106-44-5)	Can be absorbed through the skin.
Phenol (CAS 108-95-2)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

m-Cresol (CAS 108-39-4)	Skin designation applies.
p-Cresol (CAS 106-44-5)	Skin designation applies.
Phenol (CAS 108-95-2)	Skin designation applies.

US - Tennessee OELs: Skin designation

m-Cresol (CAS 108-39-4)	Can be absorbed through the skin.
p-Cresol (CAS 106-44-5)	Can be absorbed through the skin.
Phenol (CAS 108-95-2)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

m-Cresol (CAS 108-39-4)	Can be absorbed through the skin.
p-Cresol (CAS 106-44-5)	Can be absorbed through the skin.
Phenol (CAS 108-95-2)	Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Phenol (CAS 108-95-2)	Can be absorbed through the skin.
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US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

m-Cresol (CAS 108-39-4)	Can be absorbed through the skin.
p-Cresol (CAS 106-44-5)	Can be absorbed through the skin.
Phenol (CAS 108-95-2)	Can be absorbed through the skin.

Appropriate engineering controls Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of exposure. 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 safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection Wear suitable gloves. Butyl rubber gloves are recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Other Wear appropriate clothing to prevent possibility of skin contact.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

Thermal hazards

When material is heated, wear gloves to protect against thermal burns.

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. Observe any medical surveillance requirements.

9. Physical and chemical properties

Appearance	Amber liquid with phenolic odor.
Physical state	Liquid.
Form	Viscous liquid.
Color	Amber.
Odor	Phenolic.
Odor threshold	0.003 - 5 ppm (m-Cresol)
pH	Not available.
Melting point/freezing point	Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash point	78.0 °F (25.6 °C) ASTM D3278 Setflash E
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
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 available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Slight.
Partition coefficient (n-octanol/water)	
Auto-ignition temperature	Not available.
Decomposition temperature	> 1200 °F (> 648.9 °C) When cured
Viscosity	Not available.
Other information	
Flammability	Flammable liquid and vapor.
Flash point class	Flammable IC
Miscible (water)	Not applicable.

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	Flames and sparks. Avoid static discharge and uncontrolled exposure to high temperatures. Contact with incompatible materials.
Incompatible materials	Strong oxidizers, strong acids, and strong bases. Strong reducing agents.
Hazardous decomposition products	At elevated temperatures: Carbon oxides. Formaldehyde. Nitrogen oxides (NOx).

11. Toxicological information

Information on likely routes of exposure

Inhalation	In high concentrations, vapors may be irritating to the respiratory system. May cause lung edema. When cured: Vapors, spray or mists may be very irritating or corrosive to the respiratory system.
Skin contact	Causes skin irritation. May cause an allergic skin reaction. May be harmful in contact with skin. The product contains components which may penetrate skin.

Eye contact Causes severe eye damage.

Ingestion Harmful if swallowed. May cause central nervous system depression. May cause blood damage.

Symptoms related to the physical, chemical and toxicological characteristics Symptoms include redness, itching and pain. May cause permanent damage if eye is not immediately irrigated. Sensitization. Be aware that symptoms of lung edema (shortness of breath) may develop up to 24 hours after exposure. Prolonged exposure may cause chronic effects.

Information on toxicological effects

Acute toxicity Harmful if swallowed. May be harmful in contact with skin.

Components	Species	Test Results
Ethanol (CAS 64-17-5)		
Acute		
<i>Inhalation</i>		
LC50	Mouse	39 g/m ³ , 4 Hours
<i>Oral</i>		
LD50	Rat	7000 - 11000 mg/kg
m-Cresol (CAS 108-39-4)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	620 mg/kg
<i>Oral</i>		
LD50	Rat	242 mg/kg
p-Cresol (CAS 106-44-5)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	300 mg/kg
<i>Oral</i>		
LD50	Rat	207 mg/kg
Phenol (CAS 108-95-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	850 mg/kg
<i>Oral</i>		
LD50	Rat	317 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization No data available.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity Suspected of causing genetic defects.

Carcinogenicity Not classified. The product contains a small amount substance that may cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Phenol (CAS 108-95-2) 3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity No data available.

Specific target organ toxicity - single exposure No data available.

Specific target organ toxicity - repeated exposure May cause damage to organs (Kidney, Liver, Skin, Nervous system) through prolonged or repeated exposure.

Aspiration hazard	Based on available data, the classification criteria are not met.
Chronic effects	Danger of serious damage to health by prolonged exposure. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. When cured: Phenolic resin releases formaldehyde and formaldehyde has carcinogenic potential and is a known skin and respiratory sensitizer.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components	Species	Test Results
Ethanol (CAS 64-17-5)		
Aquatic		
Fish	LC50 Pimephales promelas	13480 mg/l, 96 hours
m-Cresol (CAS 108-39-4)		
Aquatic		
Crustacea	EC50 Scud (Gammarus fasciatus)	7 mg/l, 48 hours
Fish	LC50 Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8.9 mg/l, 96 hours
p-Cresol (CAS 106-44-5)		
Aquatic		
Crustacea	EC50 Water flea (Daphnia magna)	7.7 mg/l, 48 hours
Fish	LC50 Fish (Lepidocephalichthyes guntea)	6.15 - 7.96 mg/l, 96 hours
Phenol (CAS 108-95-2)		
Aquatic		
Crustacea	EC50 Water flea (Daphnia obtusa)	4.7 - 6.4 mg/l, 48 hours
Fish	LC50 Rainbow trout,donaldson trout (Oncorhynchus mykiss)	7.5 - 14 mg/l, 96 hours

Persistence and degradability No data available.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Phenol (CAS 108-95-2)	1.46
m-Cresol (CAS 108-39-4)	1.96
p-Cresol (CAS 106-44-5)	1.94

Mobility in soil Expected to be slightly to moderately mobile in soil.

Mobility in general The product is slightly soluble in water.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. Dispose of this material and its container to hazardous or special waste collection point.

Hazardous waste code D001: Waste Flammable material with a flash point <140 °F
D026: Waste Cresol

Waste from residues / unused products Dispose of in accordance with local regulations.

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

14. Transport information

DOT

UN number	UN1866
UN proper shipping name	Resin solution
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3

Packing group III
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Special provisions B1, B52, IB3, T2, TP1
Packaging exceptions 150
Packaging non bulk 173
Packaging bulk 242

IATA

UN number UN1866
UN proper shipping name Resin solution
Transport hazard class(es)
 Class 3
 Subsidiary risk -
Packing group III
Environmental hazards No.
ERG Code 3L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1866
UN proper shipping name RESIN SOLUTION
Transport hazard class(es)
 Class 3
 Subsidiary risk -
Packing group III
Environmental hazards
 Marine pollutant No.
EmS F-E, S-E
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 regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

m-Cresol (CAS 108-39-4)	LISTED
p-Cresol (CAS 106-44-5)	LISTED
Phenol (CAS 108-95-2)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Phenol	108-95-2	1000		500	10000

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
m-Cresol	108-39-4	5-10
Phenol	108-95-2	1-5
p-Cresol	106-44-5	1-5

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

m-Cresol (CAS 108-39-4)
p-Cresol (CAS 106-44-5)
Phenol (CAS 108-95-2)

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**

Ethanol (CAS 64-17-5)
m-Cresol (CAS 108-39-4)
p-Cresol (CAS 106-44-5)
Phenol (CAS 108-95-2)

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

Ethanol (CAS 64-17-5)
m-Cresol (CAS 108-39-4)
p-Cresol (CAS 106-44-5)
Phenol (CAS 108-95-2)

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

Ethanol (CAS 64-17-5)
m-Cresol (CAS 108-39-4)
p-Cresol (CAS 106-44-5)
Phenol (CAS 108-95-2)

US. Rhode Island RTK

m-Cresol (CAS 108-39-4)
p-Cresol (CAS 106-44-5)
Phenol (CAS 108-95-2)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Formaldehyde (CAS 50-00-0)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
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	15-April-2015
Revision date	08-February-2016
Version #	02
Further information	HMIS® is a registered trade and service mark of the NPCA. J - Goggles, Gloves, Apron, Dust, Vapor Respirator
HMIS® ratings	Health: 3* Flammability: 3 Physical hazard: 0

References

ACGIH
EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer

Team Industrial Services, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

This SDS contains revisions in the following section(s):

1, 2, 3, 4, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16.