

## MSDS-OHS (Material Safety Data Sheets - OHS)

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**Subject Coverage**

- MSDS
- Health and Safety data

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**File Type** Full text

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**Features**

Thesaurus	None			
Alerts (SDIs)	Not available			
<a href="#">CAS Registry Number® Identifiers</a>	<input checked="" type="checkbox"/>	Page Images	<input type="checkbox"/>	STN® AnaVist™ <input type="checkbox"/>
<a href="#">Keep &amp; Share</a>	<input checked="" type="checkbox"/>	SLART	<input type="checkbox"/>	<a href="#">STN Easy®</a> <input checked="" type="checkbox"/>
Learning Database	<input type="checkbox"/>	Structures	<input type="checkbox"/>	

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**Record Content** Full text of Material Safety Data Sheets (MSDS) with occupational, environmental, and regulatory data, as well as names, CAS Registry Numbers, and regulatory list numbers for pure substances, mixtures, and pesticides, many of which are the most heavily used chemicals in industry.

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**File Size** 61,256 records (2/2016)

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**Coverage** Current data from hundreds of sources which are reviewed annually to provide comprehensive, up-to-date material safety data sheets.

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**Updates** Reloaded quarterly

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**Language** English

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**Database Producer** ChemADVISOR, Inc.  
 Stone Quarry Crossing  
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**Sources** Produced from reviews of U.S. and international sources including books, conference proceedings, government reports, journals, etc.

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**User Aids** Online Helps (HELP DIRECTORY lists help messages available)

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**Clusters**

- CASRNS
- GOVREGS
- HEALTH
- MATERIALS
- SAFETY
- TOXICOLOGY

[STN Database Clusters](#) information (PDF).

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**Pricing**

Enter HELP COST at an arrow prompt (=>).

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## Search and Display Field codes

There are no fields that allow left truncation in this file.

Search Field Name	Search Code	Search Examples	Display Codes
Basic Index (contains single words from the full MSDS document)	None (or /BI)	S 4759-48-2 S 13-CIS-RETINOIC ACID S SPILL?(L)WATER S L1 AND FIRST AID	Full MSDS document
CAS Registry Number CAS Registry Number Count <b>(1)</b> Chemical Class Identifier (Chemical Family) Chemical Name (contains chemical names, trade names, molecular formula, regulatory list numbers, and OHS numbers) Language (code and text)	/RN /RN.CTN  /CI (or /FN) /CN (or /TN, or /MF)  /LA	S 4759-48-2/RN S FORMALDEHYDE/CN AND 1/RN.CNT  S ISOTOPES, DERIVATIVES/CI  S ACCUTANE/CN S RO 4-3780/CN  S C20H28O2/MF  S EN/LA	RN Not displayed  CI  CN, TN  LA
OHS Number (Document Number) Regulatory List Numbers Issue (Revision) Date <b>(1)</b>	/OHSN (or /DN) /RLN /RDAT	S OHS00048/OHSN  S 200-001-8/RLN S L1 AND RDAT>DEC 2002 S 20090903/RDAT	OHSN  RLN RDAT

**(1)** Numeric search field that may be searched with numeric operators or ranges.

**MSDS-OHS****DISPLAY and PRINT Formats**

Any combination of formats may be used to DISPLAY or PRINT answers. Multiple codes must be separated by spaces or commas, e.g., D RN CN. The fields are displayed or printed in the order requested.

Hit-term highlighting is available in all fields except AN. Highlighting must be ON to use the HIT, KWIC, and OCC formats.

<b>Format</b>	<b>Content</b>	<b>Examples</b>
AN (1) CI (FN) CN (TN) (2)	Accession Number Chemical Class Identifier (Chemical Family) Chemical and Trade Names (CN and TN)	D AN D L1 CI D CN 1-5
LA OHSN (DN) RDAT RLN RN SECTIONn (1)	Language OHS Number (Document Number) Issue (Revision) Date Regulatory List Numbers CAS Registry Number Section n (Sections 1 through 16)	D LA D OHSN D RDAT 1-3 D RLN D RN CN D SECTION15
ALL BIB IDE  SUMM TRIAL (TRI, SAM) (2)	Full MSDS document AN, OHSN, RN, RLN, CN, TN, CI, RDAT, LA OHSN, RN, RLN, CN, TN, CI, RDAT (IDE is the default)  MSDS summary CN, TN	D ALL D BIB D L2 7 NOH IDE D D L1 SUMM 2 D TRIAL TOTAL
HIT KWIC OCC (2)	All fields or MSDS sections containing hit terms Hit terms plus 20 words on either side (KeyWord-In-Context) List of display fields containing hit terms and number of times they occur	D AN HIT D 3 L5 KWIC D 1-10 OCC

(1) Custom display only.

(2) No online display fee for this format.

## SELECT, ANALYZE, and SORT Fields

The SELECT command is used to create E-numbers or an L-number containing terms from the specified field in an answer set.

The ANALYZE command is used to create an L-number containing terms taken from the specified field in an answer set.

The SORT command is used to rearrange the search results in either alphabetic or numeric order of the specified field(s).

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
CAS Registry Number	RN	Y	Y
Chemical Class Identifier (Chemical Family)	CI	Y (2)	Y
	FN	Y	Y
Chemical Names and CAS Registry Number	CHEM	Y (3)	N
Chemical Name and Trade Names	CN	Y (default)	Y
	TN	Y (4)	Y
	NAME	Y (3)	N
Language	LA	Y	Y
Occurrence Count of Hit Terms	OCC	N	Y
OHS Number	OHSN	Y	Y
	DN	Y (5)	Y
Regulatory List Numbers	RLN	Y	Y
Issue (Revision) Date	RDAT	Y	Y

(1) HIT may be used to restrict terms extracted to terms that match the search expression used to create the answer set, e.g., SEL HIT RN.

(2) Appends /FN to the terms created by SELECT.

(3) Appends /BI to the terms created by SELECT.

(4) Appends /CN to the terms created by SELECT.

(5) Appends /OHSN to the terms created by SELECT.

## Full-Text Browsing

User Request	Example	System Response
DISPLAY BROWSE	=> DISPLAY BROWSE ENTER (L1) OR L#:. ENTER (DIS), ANSWER NUMBERS, OR END:	NOVICE version
D BRO  Answer number(s) Answer number(s) and format Format only  *Format  Forward n fields Backward n fields Search forward for a character string Search backward for a character string End DISPLAY BROWSE	=> D BRO L1 : :1-3 :4 SUMMARY :SUMMARY  :*KWIC  :F3 :B1 :S CARCINOGEN  :S- FIRST AID  :END =>	EXPERT version  display answers 1, 2, and 3 in default format display answer 4 in SUMMARY format display the SUMMARY information for the last answer displayed change default to KWIC; no answer displayed move forward 3 fields move backward 1 field search forward within record for 'carcinogen'  search backward within record for 'first aid'  exit DISPLAY BROWSE and return to => prompt

**MSDS-OHS****Sample Record****DISPLAY ALL**

MSDS-OHS COPYRIGHT 2014 ChemADVISOR, Inc. on STN

OHSN OHS71221 MSDS-OHS  
REVISION DATE: 10 Sep 2014 (Revision Number: 2.01)-----  
SECTION 1 PRODUCT AND COMPANY IDENTIFICATION  
-----Material Name:  
WOOD CREOSOTEChemADVISOR, Inc.  
Stone Quarry Crossing  
811 Camp Horne Road  
Suite 220  
Pittsburgh  
PA 15237

E-mail: info@chemadvisor.com

MSDS is for reference use only; please contact manufacturer for emergency response information, routine product inquiries and orders.

## Synonyms

CREASOTE; CREOSOTE, WOOD; RTECS: G05870000

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SECTION 2 HAZARDS IDENTIFICATION  
-----

## Emergency Overview

Color: colorless to brown  
Change in color: Not available  
Physical Form: Not available  
Odor: irritating odorHealth Hazards: skin burns, eye burns, respiratory tract irritation  
Physical Hazards: Combustible liquid and vapor.

## Potential Health Effects

## Inhalation

Short Term: irritation (possibly severe), nausea, headache, dizziness  
Long Term: vomiting

## Skin Contact

Short Term: burns, rash, itching, low body temperature, nausea, vomiting, difficulty breathing, headache, dizziness, bluish skin color, convulsions  
Long Term: no information on significant adverse effects

## Eye Contact

Short Term: burns, pin-point pupils  
Long Term: same as effects reported in short term exposure

## Ingestion

Short Term: low body temperature, nausea, vomiting, difficulty breathing, headache, dizziness, bluish skin color, convulsions  
Long Term: no information on significant adverse effects-----  
SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS  
-----CAS: 8021-39-4  
COMPONENT: WOOD CREOSOTE  
EC NUMBER: 232-419-1  
Percent: 100.0**February 2016**

Symbol(s): Xn C Xi  
Risk Phrase(s): R:22-34-37

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SECTION 4 FIRST AID MEASURES  
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Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

Skin

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing before reuse. Destroy contaminated shoes.

Eyes

Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

Note to Physicians

For ingestion, consider gastric lavage and activated charcoal slurry.

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SECTION 5 FIRE FIGHTING MEASURES  
-----

See Section 9 for Flammability Properties

NFPA Ratings:

Health: 3 Fire: 2 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Flammable Properties

Moderate fire hazard.

Extinguishing Media

regular dry chemical, carbon dioxide, water, regular foam Large fires: Use regular foam or flood with fine water spray.

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

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SECTION 6 ACCIDENTAL RELEASE MEASURES  
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Water Release

Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

**MSDS-OHS**

## Occupational spill/release

Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry.

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SECTION 7 HANDLING AND STORAGE  
-----

## Storage Procedures

Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. Keep separated from incompatible substances.

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SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION  
-----

Component Exposure Limits: ACGIH, NIOSH, EU, OSHA (US) and Mexico have not developed exposure limits for any of this product's components

## Component Analysis

Biological limit value There are no biological limit values for any of this product's components.

## Ventilation

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

## PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

## Protective Clothing

Wear appropriate chemical resistant clothing.

## Glove Recommendations

Wear appropriate chemical resistant gloves.

## Respiratory Protection

Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. Any chemical cartridge respirator with organic vapor cartridge(s). Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s). Any air-purifying respirator with a full facepiece and an organic vapor canister. For Unknown Concentrations or Immediately Dangerous to Life or Health - Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

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SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES  
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Appearance: Not available.

Physical State: Liquid.

Odor: irritating odor.

Color: colorless to brown.

Odor Threshold: Not available.

pH: Not available.

Melting Point: Not available.

**February 2016**



Boiling Point:195 - 400 °C.

Freezing point:Not available.  
Evaporation Rate:Not available.

Boiling Point Range:Not available.  
Flammability (solid, gas) Not available.

Autoignition:336 °C.  
Flash Point:73 °C.

Lower Explosive Limit:Not available.  
Decomposition:Not available.

Upper Explosive Limit:Not available.  
Vapor Pressure:Not available.

Vapor Density (air=1) Not available.  
Specific Gravity (water=1) >1.076

Water Solubility:(slightly soluble)  
Partition coefficient: n-octanol/water Not available.

Viscosity:Not available.  
Solubility (Other) Not available.

Density:Not available.  
Taste:burning taste.

Texture:oily.  
OSHA Flammability Class:IIIA.

Solvent Solubility  
Soluble  
glycerol, acetic acid, fixed alkali hydroxide solutions, alcohol, chloroform,  
ether, oils

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SECTION 10 STABILITY AND REACTIVITY  
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Chemical Stability  
Stable at normal temperatures and pressure.

Conditions to Avoid  
Avoid heat, flames, sparks and other sources of ignition. Containers may  
rupture or explode if exposed to heat. Keep out of water supplies and sewers.

Incompatible Materials  
combustible materials, acids, metal salts, oxidizing materials,

WOOD CREOSOTE: ACACIA: Incompatible. ALBUMIN: Incompatible. CHLOROSULFONIC  
ACID: Increase in temperature and pressure when mixed in closed container.  
CUPRIC SALTS: Incompatible. FERRIC SALTS: Incompatible. GOLD SALTS:  
Incompatible. OXIDIZERS: Fire and explosion hazard. SILVER SALTS: Incompatible.

Hazardous Decomposition Products  
oxides of carbon

Thermal decomposition products: oxides of carbon.

Possibility of Hazardous Reactions  
Will not polymerize.

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SECTION 11 TOXICOLOGICAL INFORMATION  
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**MSDS-OHS**

Component Analysis - LD50/LC50 The components of this material have been reviewed in various sources and no selected endpoints have been identified

RTECS Acute Toxicity (selected) The components of this material have been reviewed, and RTECS publishes the following endpoints:

WOOD CREOSOTE.8021-39-4.

Oral: 433 mg/kg Oral Mouse LD50.

Acute Toxicity Level:WOOD CREOSOTE (8021-39-4)

Toxic: ingestion

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

RTECS Irritation:The components of this material have been reviewed and RTECS publishes no data as of the date on this document

Local Effects:WOOD CREOSOTE (8021-39-4)

Irritant: inhalation

Corrosive: skin, eye

Inhalation - Acute Exposure

WOOD CREOSOTE: May cause moderate respiratory tract irritation In one study of workers who developed creosote burns, a small percent also complained of depression, weakness, severe headache, slight confusion, vertigo, salivation, and nausea It is unclear whether the route of exposure was skin contact or inhalation or both.

Inhalation - Chronic Exposure

WOOD CREOSOTE A study of workers spraying warmed creosote with concentrations up to 0.01 mg/L reported headaches, giddiness, nausea, vomiting, and salivation.

Skin Contact - Acute Exposure

WOOD CREOSOTE: The liquid and vapors are strong irritants and may cause burning, itching, local erythema progressing to a bronze pigmentation, papular and vesicular eruptions, ulceration, and desquamation Photosensitization occurs, especially in fair-skinned persons Prolonged contact may cause burns It is readily absorbed through the skin and may cause systemic illness with salivation, nausea, vomiting, headache, thready pulse, respiratory distress, loss of pupillary reflexes, hypothermia, mild convulsions, and cyanosis Depression, weakness, slight confusion, nausea, and vertigo were also reported from one study in which it was not clear whether the route of exposure was inhalation or skin contact or both.

Skin Contact - Chronic Exposure

WOOD CREOSOTE: Repeated or prolonged exposure may cause darkening of the skin and dermatitis If sufficient amounts are absorbed, systemic symptoms as with acute exposure may occur.

Eye Contact - Acute Exposure

WOOD CREOSOTE: Liquid contact has caused painful protracted keratoconjunctivitis involving loss of corneal epithelium, clouding of the cornea, miosis and long-lasting irritability and photophobia Other symptoms which have been reported from exposure to creosote-treated particles include abrasion of the cornea with some permanent scarring, hyperemia, and pronounced serous secretion.

Eye Contact - Chronic Exposure

WOOD CREOSOTE Repeated or prolonged exposure may cause conjunctivitis.

Ingestion - Acute Exposure

WOOD CREOSOTE: Has caused intense irritation and congestion of the entire gastroenteric tract Salivation, nausea, vomiting, respiratory distress, thready

pulse, vertigo, headache, loss of pupillary reflexes, hypothermia, cyanosis and mild convulsions may also occur Death from large doses appears largely due to cardiovascular collapse.

Ingestion - Chronic Exposure

WOOD CREOSOTE: Repeated ingestion of small doses may result in chronic intoxication characterized by disturbances of vision and digestion including increased peristalsis and bloody stools In one case, hypertension and general cardiovascular collapse were reported Other symptoms of acute exposure are also possible Maternal reproductive effects have been reported in mice following repeated exposures prior to mating Paternal reproductive effects have been reported in mice and rats following repeated exposures prior to mating.

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SECTION 12 ECOLOGICAL INFORMATION  
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Component Analysis - Aquatic Toxicity No LOLI ecotoxicity data are available for this product's components

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SECTION 13 DISPOSAL CONSIDERATIONS  
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Disposal Methods

Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U051. Dispose in accordance with all applicable regulations.

Component Waste Numbers The U.S. EPA has not published waste numbers for this product's components

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SECTION 14 TRANSPORT INFORMATION  
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US DOT Information:

Shipping Name: CORROSIVE LIQUIDS, N.O.S., (Contains:WOOD CREOSOTE)

Hazard Class: 8

UN/NA #: UN1760

Packing Group: I

Required Label(s): 8

TDG Information: No Classification assigned.

ADR Information:

Shipping Name: CORROSIVE LIQUID, N.O.S.

Hazard Class: 8

UN#: UN1760

Packing Group: I

Required Label(s): 8

RID Information:

Shipping Name: CORROSIVE LIQUID, N.O.S.

Hazard Class: 8

UN#: UN1760

Packing Group: I

**MSDS-OHS**

Required Label(s): 8

IATA Information:

Shipping Name: CORROSIVE LIQUID, N.O.S.

Hazard Class: 8

UN#: UN1760

Packing Group: I

Required Label(s): 8

ICAO Information:

Shipping Name: CORROSIVE LIQUID, N.O.S.

Hazard Class: 8

UN#: UN1760

Packing Group: I

Required Label(s): 8

IMDG Information:

Shipping Name: CORROSIVE LIQUID, N.O.S.

Hazard Class: 8

UN#: UN1760

Packing Group: I

Component Marine Pollutants (IMDG) Not regulated as dangerous goods.

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SECTION 15 REGULATORY INFORMATION  
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US Federal Regulations

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: Yes

Chronic Health: No

Fire: Yes

Pressure: No

Reactivity: No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component: WOOD CREOSOTE

CAS: 8021-39-4

CA: No

MA: Yes

MN: No

NJ: No  
PA: No

Not listed under California Proposition 65

REACH List of Substances Subject to Restriction (Annex XVII) - Reg. (EU) No. 1907/2006 This list includes substances subject to Restriction. Under REACH, these substances are subject to restrictions on manufacture, placing on the market and use of certain dangerous substances, mixtures and articles  
WOOD CREOSOTE (8021-39-4)  
Use restricted. See item 31[h]. (Notice 2009/C 130/03 Netherlands)

Symbol(s)

Xn Harmful

C Corrosive

Xi Irritant

Risk Phrases

R22 Harmful if swallowed.

R34 Causes burns.

R37 Irritating to respiratory system.

Safety Phrases

S2 Keep out of the reach of children.

S13 Keep away from food, drink and animal feedingstuffs.

S20 When using do not eat or drink.

S24 Avoid contact with skin.

S25 Avoid contact with eyes.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36 Wear suitable protective clothing.

S39 Wear eye/face protection.

S46 If swallowed, seek medical advice immediately and show this container or label.

Component Analysis - Inventory

Component: WOOD CREOSOTE

CAS#: 8021-39-4

US: Yes

CA: DSL

EU: EIN

AU: Yes

PH: No

JP: No

KR: Yes

CN: Yes

NZ: Yes

Globally Harmonized System of Classification and Labeling (GHS)

The listed component(s) of this material have been checked for country-specific published classifications according to the Globally Harmonized System of Classification and Labeling (GHS). The results of the queries are displayed below. Please see the individual country listings, as additional interpretations or reference information may be available. For a reference list of H- or P-statements, please visit ChemADVISOR's website at <http://www.chemadvisor.com/product-resources/26-pure-substance-and-mixture-databases/247-ghs-hazard-and-physical-statements>

Australia GHS Classifications: No published information available This material may be hazardous according to published criteria for classification

**MSDS-OHS**

European Union GHS Classifications: No published information available This material may be hazardous according to published criteria for classification

Indonesia GHS Classifications: No published information available This material may be hazardous according to published criteria for classification

Japan GHS Classifications: No published information available This material may be hazardous according to published criteria for classification

Korea GHS Classifications (SV) No published information available This material may be hazardous according to published criteria for classification

New Zealand GHS Classifications: No published information available This material may be hazardous according to published criteria for classification

South Africa GHS Classifications: No published information available This material may be hazardous according to published criteria for classification

Taiwan GHS Classifications: No published information available This material may be hazardous according to published criteria for classification

Classification

No classification assigned.

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SECTION 16 OTHER INFORMATION  
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Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of LIsts® - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Full text of R phrases in Section 3:

R22: Harmful if swallowed.

R34: Causes burns.

R37: Irritating to respiratory system.

Other Information

Reasonable care has been taken in the preparation of this information; however, the manufacturer makes no warranty whatsoever including the warranty of

merchantability, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental, consequential, or other such damages resulting from its use or misuse.

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**In North America**

CAS  
STN North America  
P. O. Box 3012  
Columbus, Ohio 43210-0012 U.S.A.

CAS Customer Center:  
Phone: 800-753-4227 (North America)  
614-447-3700 (worldwide)  
Fax: 614-447-3751  
Email: help@cas.org  
Internet: www.cas.org

**In Europe**

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STN Europe  
P. O. Box 2465  
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Internet: www.stn-international.com

**In Japan**

JAICI (Japan Association for  
International Chemical Information)  
STN Japan  
Nakai Building  
6-25-4 Honkomagome, Bunkyo-ku  
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Internet: www.jaici.or.jp