Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
NAPHTHALENE
Synonyms
NAPHTHALENE CRUDE 78 DEGREE; NAPHTHALENE INTERMEDIATE 79 DEGREE; NAPHTHALENE REFINED 80 DEGREE; COAL TAR NAPHTHALENE
Chemical Family
polynuclear aromatic hydrocarbons
Product Use
Intermediate process chemical.
Restrictions on Use
None known.
Details of the supplier of the safety data sheet

KOPPERS INC.
436 Seventh Avenue
Pittsburgh, PA 15219-1800
Mfg Contact: 412-227-2001 (SDS Requests: 866-852-5239)

CHEMTREC: 800-424-9300 (Outside USA: +1 703-527-3887)
Emergencies: (Medical in USA): 877-737-9047
Emergencies: (Medical Outside of USA): 651-632-9269
E-mail: naorgmsds@koppers.com

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.
Flammable Liquids - Category 4
Acute Toxicity - Oral - Category 4
Acute Toxicity - Dermal - Category 4
Skin Corrosion/Irritation - Category 2
Serious Eye Damage/Eye Irritation - Category 2A
Skin Sensitization - Category 1A
Germ Cell Mutagenicity - Category 2
Carcinogenicity - Category 1B
Specific Target Organ Toxicity - Single Exposure - Category 1 (blood , eyes , respiratory system , Hematopoietic System , Cardiovascular system , Central Nervous System , kidneys , liver)
Specific Target Organ Toxicity - Repeated Exposure - Category 1 (Hematopoietic System , Cardiovascular system , Central Nervous System , respiratory system , liver , kidneys , bone marrow)
Specific Target Organ Toxicity - Repeated Exposure - Category 2 (lungs , liver)
Hazardous to the Aquatic Environment - Acute - Category 1
Hazardous to the Aquatic Environment - Chronic - Category 1
GHS Label Elements
Symbol(s)

Signal Word
Danger
Hazard Statement(s)
Combustible liquid.
Harmful if swallowed.
Harmful in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.
Causes damage to organs.
Causes damage to organs through prolonged or repeated exposure.
May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.
Precautionary Statement(s)
Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flame/hot surfaces - No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Do not eat, drink or smoke when using this product.
Avoid release to the environment.
Wear protective gloves.
Response
In case of fire: Use appropriate media to extinguish.
Collect spillage.
If exposed: Call a POISON CENTER or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Rinse mouth.
Call a POISON CENTER or doctor if you feel unwell.
Specific treatment (see label).
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.
Other Hazards
Heated material may cause thermal burns.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
91-20-3	Naphthalene	94.5-100
95-15-8	Benzo[b]thiophene	1.6-1.9
91-22-5	Quinoline	1.6-1.9
91-57-6	2-Methylnaphthalene	0.1-1.6
1319-77-3	Cresol	0.2-1.2
90-12-0	1-Methylnaphthalene	0.1-0.6
108-68-9	3,5-Xylenol	0.3-0.4
95-13-6	Indene	0.1-0.3

Section 4 - FIRST AID MEASURES

Inhalation
If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.
Skin
Wash skin with soap and water or use a waterless handcleaner while removing contaminated clothing and shoes. For thermal burns, cool affected areas as quickly as possible by drenching or immersing in water until material solidifies. Get immediate medical attention.
Eyes
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Then get immediate medical attention.
Ingestion
Not a likely route of exposure. If burns occur, treat as thermal burns. Do NOT induce vomiting. If a large amount is swallowed, get medical attention. Do not give anything by mouth to unconscious or convulsive person. If vomiting occurs, keep head lower than hips to help prevent aspiration. Rinse mouth.
Most Important Symptoms/Effects
Acute
Harmful if swallowed Harmful in contact with skin. Causes skin irritation. Causes serious eye irritation. May cause allergic skin reaction. Causes damage to organs.
Delayed
Suspected of causing genetic defects. May cause cancer. Causes damage to organs through prolonged or repeated exposure. May cause damage to organs through prolonged or repeated exposure.
Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

regular dry chemical, carbon dioxide, dry sand, earth, water spray, regular foam, Large fires: Use water spray, fog or regular foam.

Unsuitable Extinguishing Media

Do not use water jets.

Special Hazards Arising from the Chemical

Moderate fire hazard. Vapor/air mixtures are explosive above flash point. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.

Hazardous Combustion Products

oxides of carbon

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. Directly spraying water or foam onto hot burning product may cause frothing. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. Keep unnecessary people away, isolate hazard area and deny entry. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire.

Special Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Avoid inhalation or contact. Provide adequate ventilation. Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment. Collect spillage.

Methods and Materials for Containment and Cleaning Up

Eliminate all ignition sources if safe to do so. Do not touch or walk through spilled material. Stop leak if possible without personal risk. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Prevent entry into waterways, sewers, basements, or confined areas. In Canada, report releases to provincial authorities, municipal authorities, or both, as required. If this product is spilled or leaked into the environment, the CERCLA (40 CFR 302.4) reportable quantity is 100 pounds, and requires National Response Center notification.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Keep away from flames and hot surfaces. No smoking. Do not breathe vapor or mist. Avoid breathing vapors of heated materials. Avoid contact with eyes, skin and clothing. Use only in well ventilated area. Wash exposed areas thoroughly with soap and water, or a waterless handcleaner, after skin contact and before eating, drinking, using tobacco products, or restrooms. Contaminated clothing should be removed and laundered before reuse. Wear protective gloves/clothing and eye/face protection. Do not eat, drink, or smoke when using this product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep cool.
Store locked up.
Store and handle in accordance with all current regulations and standards. Label all containers. Keep away from heat, sparks and naked flames. Store in a cool, dry place. Protect from physical damage. Keep separated from incompatible substances.

Incompatible Materials

oxidizing materials

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Naphthalene	**91-20-3**
ACGIH:	10 ppm TWA
	Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA (US):	10 ppm TWA ; 50 mg/m3 TWA
Mexico:	Skin - potential for cutaneous absorption
2-Methylnaphthalene	**91-57-6**
Mexico:	0.5 ppm TWA [VLE-PPT]
	Skin - potential for cutaneous absorption
1-Methylnaphthalene	**90-12-0**
Mexico:	0.5 ppm TWA [VLE-PPT]
	Skin - potential for cutaneous absorption
3,5-Xylenol	**108-68-9**
ACGIH:	1 ppm TWA inhalable fraction and vapor
Indene	**95-13-6**
ACGIH:	5 ppm TWA
NIOSH:	10 ppm TWA ; 45 mg/m3 TWA
Mexico:	5 ppm TWA [VLE-PPT]

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

Naphthalene (91-20-3)

Time: end of shift Parameter: 1-Naphthol with hydrolysis plus 2-Naphthol with hydrolysis (nonquantitative, nonspecific)

Engineering Controls

Ensure adequate ventilation. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

ANSI Z87.1-1989 approved safety glasses with side shields. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. For the molten form: A face shield is recommended.

Skin Protection

Wear protective clothing to prevent contact. Contaminated clothing should be removed and laundered before reuse. In the molten form: Wear appropriate heat resistant clothing.

Respiratory Protection

If the applicable TLVs and/or PELs are exceeded, use canister or cartridge respirators, which are MSHA/NIOSH-approved, with organic vapor cartridges and high-efficiency particulate filters.

Glove Recommendations

Wear appropriate gloves. In the molten form: Wear appropriate heat resistant gloves.

Protective Materials

chemical resistant material, heat resistant material

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	forms crystals during cooling	**Physical State**	liquid
Odor	mothball odor	**Color**	Not available
Odor Threshold	0.003 ppm	**pH**	Not available
Melting Point	77 - 80 °C	**Boiling Point**	218 °C
Boiling Point Range	Not available	**Freezing point**	Not available
Evaporation Rate	<1 (Ether = 1)	**Flammability (solid, gas)**	Not applicable
Autoignition Temperature	526 °C	**Flash Point**	>80 °C
Lower Explosive Limit	0.9 % (by volume)	**Decomposition temperature**	Not available
Upper Explosive Limit	5.9 % (by volume)	**Vapor Pressure**	0.187 mmHg @ 20 °C
Vapor Density (air=1)	4.42	**Specific Gravity (water=1)**	1.028 at 4 °C
Water Solubility	0.003 wt%	**Partition coefficient: n-octanol/water**	Not available

Viscosity	Not available	**Kinematic viscosity**	Not available
Solubility (Other)	Not available	**Density**	1.162 g/cc at 4 °C
Log KOW	3.7 at 25 °C	**Physical Form**	liquid when loaded , solid at room temperature , changes from solid to liquid as temperature increases
Volatility by Volume	>99 %	**Molecular Weight**	Not available

Other Information
No additional information is available.

Section 10 - STABILITY AND REACTIVITY

Reactivity
No reactivity hazard is expected.
Chemical Stability
Stable at normal temperatures and pressure.
Possibility of Hazardous Reactions
Will not polymerize.
Conditions to Avoid
Avoid heat, flames, sparks and other sources of ignition.
Incompatible Materials
oxidizing materials
Hazardous decomposition products
oxides of carbon

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure
Inhalation
May be harmful if inhaled.
Skin Contact
Harmful in contact with skin. Causes skin irritation. May cause allergic skin reaction.
Eye Contact
Causes serious eye irritation.
Ingestion
Harmful if swallowed.
Acute and Chronic Toxicity
Component Analysis - LD50/LC50
The components of this material have been reviewed in various sources and the following selected endpoints are published:
Naphthalene (91-20-3)
Oral LD50 Rat 1110 mg/kg
Dermal LD50 Rabbit 1120 mg/kg
Inhalation LC50 Rat >340 mg/m3 1 h
Quinoline (91-22-5)
Oral LD50 Rat 331 mg/kg

Dermal LD50 Rabbit 540 µL/kg

3,5-Xylenol (108-68-9)

Oral LD50 Rat 608 mg/kg

Dermal LD50 Rabbit 2000 mg/kg

Product Toxicity Data

Acute Toxicity Estimate

Dermal	1110 mg/kg
Oral	1013 mg/kg

Immediate Effects

Harmful if swallowed. Harmful in contact with skin. Causes skin irritation. Causes serious eye irritation. May cause allergic skin reaction. Causes damage to organs.

Delayed Effects

Suspected of causing genetic defects. May cause cancer. Causes damage to organs through prolonged or repeated exposure. May cause damage to organs through prolonged or repeated exposure.

Irritation/Corrosivity Data

Causes skin irritation. Causes serious eye irritation.

Respiratory Sensitization

No data available.

Dermal Sensitization

May cause allergic skin reaction.

Component Carcinogenicity

Naphthalene	**91-20-3**
ACGIH:	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC:	Monograph 82 [2002] (Group 2B (possibly carcinogenic to humans))
NTP:	Reasonably Anticipated To Be A Human Carcinogen
Quinoline	**91-22-5**
IARC:	Monograph 121 [in preparation] (Group 2B (possibly carcinogenic to humans))
OSHA:	Present
3,5-Xylenol	**108-68-9**
ACGIH:	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

May cause cancer.

Germ Cell Mutagenicity

Suspected of causing genetic defects.

Tumorigenic Data

No data available

Reproductive Toxicity

No data available for the mixture.

Specific Target Organ Toxicity - Single Exposure

blood, eyes, respiratory system, hematopoietic system, cardiovascular system, central nervous system, kidneys, liver.

Specific Target Organ Toxicity - Repeated Exposure
hematopoietic system, cardiovascular system, central nervous system, kidneys, liver, respiratory system, bone marrow, lungs.

Aspiration hazard
No data available.

Medical Conditions Aggravated by Exposure
respiratory disorders, skin disorders, eye disorders, blood system disorders

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

Component Analysis - Aquatic Toxicity

Naphthalene	**91-20-3**
Fish:	LC50 96 h Pimephales promelas 5.74 - 6.44 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 1.6 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 0.91 - 2.82 mg/L [static]; LC50 96 h Pimephales promelas 1.99 mg/L [static]; LC50 96 h Lepomis macrochirus 31.0265 mg/L [static]
Invertebrate:	LC50 48 h Daphnia magna 2.16 mg/L IUCLID ; EC50 48 h Daphnia magna 1.96 mg/L [Flow through] EPA ; EC50 48 h Daphnia magna 1.09 - 3.4 mg/L [Static] EPA
Quinoline	**91-22-5**
Fish:	LC50 96 h Pimephales promelas 77.8 mg/L [flow-through]; LC50 96 h Pimephales promelas 46 mg/L [static]; LC50 96 h Poecilia reticulata 40 mg/L [static]
Algae:	EC50 72 h Desmodesmus subspicatus 84 mg/L [static] EPA ; EC50 96 h Desmodesmus subspicatus 90 mg/L [static] EPA
Invertebrate:	EC50 48 h Daphnia magna 28.5 mg/L IUCLID ; EC50 48 h Daphnia magna 45.9 - 57.3 mg/L [Static] EPA

Algal Toxicity
Naphthalene: 0.4 mg/L 72 hours EC50 Skeletonema costatum.

Persistence and Degradability
Biodegradable.

Bioaccumulative Potential
This material is believed not to bioaccumulate due to low water solubility. BCF for fish is 168.

Mobility
The product has poor water-solubility.

Other Toxicity
No data available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations.
Component Waste Numbers
This product is classified as a Listed Hazardous Waste U165 as Naphthalene, upon disposal. This product may be classified as a Hazardous Waste for Toxicity Code D026 (Cresols) based on TCLP results.

Section 14 - TRANSPORT INFORMATION

US DOT Information:
Shipping Name: NAPHTHALENE, MOLTEN
Hazard Class: 4.1
UN/NA #: UN2304
Packing Group: III
Required Label(s): 4.1
Marine pollutant
Further information: This material contains reportable quantity (RQ) Hazardous Substances. Applicable shipping classification

IATA Information:
Marine pollutant
Further information: Air shipment is prohibited.

TDG Information:
Shipping Name: NAPHTHALENE, MOLTEN
Hazard Class: 4.1
UN#: UN2304
Packing Group: III
Required Label(s): 4.1
Marine pollutant
International Bulk Chemical Code
This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.
Further information
US DOT Reportable Quantities NAPHTHALENE (91-20-3) 100 lbs RQ; 45.4 kg RQ; STCC Code: 2814149 , HAZ STCC: 4917473. ERG# 133

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations
This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Naphthalene	**91-20-3**
SARA 313:	0.1 % de minimis concentration
CERCLA:	100 lb final RQ ; 45.4 kg final RQ

Quinoline	**91-22-5**
SARA 313:	1 % de minimis concentration
CERCLA:	5000 lb final RQ ; 2270 kg final RQ

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

Flammable; Carcinogenicity; Acute toxicity; Skin Corrosion/Irritation; Respiratory/Skin Sensitization; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity; Germ Cell Mutagenicity

U.S. State Regulations

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

Component	CAS	CA	MA	MN	NJ	PA
Naphthalene	**91-20-3**	Yes	Yes	Yes	Yes	Yes
Quinoline	**91-22-5**	Yes	Yes	Yes	Yes	Yes
Indene	**95-13-6**	Yes	Yes	Yes	Yes	Yes

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

WARNING

This product can expose you to chemicals including Naphthalene, Quinoline , which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Component Analysis - Inventory

Naphthalene (91-20-3)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW	VN (Draft)
No	Yes	Yes	Yes	Yes	Yes	Yes

Benzo[b]thiophene (95-15-8)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	NSL	No	Yes	EIN	No	Yes	No	Yes

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW	VN (Draft)

No	No	Yes	No	Yes	Yes	Yes

Quinoline (91-22-5)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW	VN (Draft)
Yes	Yes	Yes	Yes	No	Yes	Yes

2-Methylnaphthalene (91-57-6)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW	VN (Draft)
No	Yes	Yes	Yes	No	Yes	Yes

Cresol (1319-77-3)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW	VN (Draft)
Yes	Yes	Yes	Yes	No	Yes	Yes

1-Methylnaphthalene (90-12-0)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW	VN (Draft)
No	No	Yes	Yes	Yes	Yes	Yes

3,5-Xylenol (108-68-9)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW	VN (Draft)
Yes	No	Yes	Yes	Yes	Yes	Yes

Indene (95-13-6)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW	VN (Draft)
No	Yes	Yes	Yes	No	Yes	Yes

U.S. Inventory (TSCA)
Listed on inventory.

Section 16 - OTHER INFORMATION

NFPA Ratings
Health: 2 Fire: 2 Instability: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes
SECTION 2: Hazard identification. SECTION 3: Composition / information on ingredients. SECTION 4: First aid measures. SECTION 11: Toxicological information.

Preparation Date
7/19/2018

Revision date
1/3/2020

Key / Legend
ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC – European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); 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; ISHL - Japan

Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; KR REACH CCA - Korea Registration and Evaluation of Chemical Substances Chemical Control Act; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX – Mexico; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL – Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TH-TECI - Thailand - FDA Existing Chemicals Inventory (TECI); TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

Disclaimer:

The information set forth in this Safety Data Sheet does not purport to be all-inclusive and should be used only as a guide. While the information and recommendations set forth herein are believed to be accurate, the company makes no warranty regarding such information and recommendations and disclaims all liability from reliance thereon.