

ASHLAND[®]

SAFETY DATA SHEET

Page: 1

Revision Date: 05/14/2014

Print Date: 8/13/2014

MSDS Number: R0411987

Version: 1.6

Valvoline Professional Series™ LIGHT/MEDIUM
DIESEL FUEL RAIL CLEANER

VP203

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Ashland	Regulatory Information Number	1-800-325-3751
P.O. Box 2219	Telephone	614-790-3333
Columbus, OH 43216	Emergency telephone number	1-800-ASHLAND (1-800-274-5263)
Product name	Valvoline Professional Series™ LIGHT/MEDIUM DIESEL FUEL RAIL CLEANER	
Product code	VP203	

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid

WARNING! COMBUSTIBLE LIQUID AND VAPOR. MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. CAUSES EYE IRRITATION. MAY CAUSE SKIN AND RESPIRATORY TRACT IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE DERMATITIS AND BURNS.

Potential Health Effects

Exposure routes

Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

Eye contact

Can cause severe eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes. Can injure eye tissue.

Skin contact

Can cause skin irritation. Symptoms may include redness and burning of skin, and other skin damage. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, skin burns, and other skin damage.

Ingestion

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

Inhalation

Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

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Aggravated Medical Condition

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: Skin, Upper respiratory tract, lung (for example, asthma-like conditions), Kidney, urinary system, Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias., Individuals with erythrocyte glucose-6-phosphate dehydrogenase deficiency are particularly susceptible to hemolytic agents and rapidly develop hemolytic anemia from ingestion or inhalation of this material (or a component).

Symptoms

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: sweating, Fever, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), Lung irritation, central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), Abdominal pain, frequent or painful urination, Lack of coordination, confusion, irregular heartbeat, blood abnormalities (breakage of red blood cells), narcosis (dazed or sluggish feeling), kidney damage, lung damage, Convulsions, coma

Target Organs

Exposure to this material (or a component) has been found to cause kidney damage in male rats. The mechanism by which this toxicity occurs is specific to the male rat and the kidney effects are not expected to occur in humans., Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: mild, reversible liver effects, mild, reversible spleen effects, mild, reversible changes in blood cell counts, cataracts, anemia, nasal damage, thymus damage, eye damage, kidney damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: cataracts, eye damage

Carcinogenicity

2-Ethylhexanol did not cause cancer in male mice or in male or female rats when given to the animals through a stomach tube. It caused a possible increase in liver tumors in female mice. 2-Ethylhexanol is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA). In a National Toxicology Program (NTP) study, lifetime inhalation exposure to naphthalene resulted in increases in tumors of the nose in rats. In a previous NTP study, lifetime exposure to naphthalene caused lung tumors in female mice. Male mice with the same exposure did not develop tumors. The relevance of this finding to humans is uncertain. Naphthalene is listed as carcinogenic by IARC (International Agency for Research on Cancer) and the National Toxicology Program (NTP).

Reproductive hazard

When given orally, 2-ethylhexanol caused an increase in incidence of birth defects at high doses, which were also harmful to the pregnant animal. 2-Ethylhexanol was not harmful to the fetus when administered by inhalation of vapors or when applied to the skin of the pregnant rats. Occupational exposure through skin contact or breathing of vapors is not expected to be harmful to the fetus., This material (or a component) causes harm to the fetus.

Other information

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Infants are more sensitive than adults to the toxic effects of naphthalene. Diapers or cloths stored with mothballs and used directly on infants have caused skin rashes and illness. Naphthalene vapors from clothing or blankets that had been stored in or near the infant's room have caused illness and death.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components	CAS-No. / Trade Secret No.	Concentration
FUEL OIL #2	68476-30-2	>=80-<90%
METHYL ISOBUTYL CARBINOL	108-11-2	>=10-<15%
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT	64742-47-8	>=1.5-<5%
ETHYLHEXANOL-2	104-76-7	>=1-<1.5%
NAPHTHALENE	91-20-3	>=0.1-<0.5%

4. FIRST AID MEASURES

Eyes

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Skin

Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.

Ingestion

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Notes to physician

Hazards: Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. Inhalation or ingestion of high levels of this material (or a component) may cause a hemolytic reaction. Complications of acute intravascular hemolysis include anemia,

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leukocytosis, fever, hemoglobinuria, jaundice, renal insufficiency, and sometimes disturbances in liver function. Fats, for example, baby oil on the skin or ingested oil, facilitate absorption of naphthalene.

Treatment: No information available.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Dry chemical, Carbon dioxide (CO₂), Water spray

Hazardous combustion products

carbon dioxide and carbon monoxide, Hydrocarbons

Precautions for fire-fighting

If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes.

NFPA Flammable and Combustible Liquids Classification

Combustible Liquid Class II

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Ensure adequate ventilation. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Pay attention to the spreading of gases especially at ground level (heavier than air) and to the direction of the wind.

Environmental precautions

Prevent spreading over a wide area (e.g. by containment or oil barriers). Do not let product enter drains. Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.

Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Other information

Comply with all applicable federal, state, and local regulations. Suppress (knock down) gases/vapours/mists with a water spray jet.

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7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77.

Storage

Store in a cool, dry, ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

FUEL OIL #2		68476-30-2	
METHYL ISOBUTYL CARBINOL		108-11-2	
ACGIH	time weighted average	25 ppm	
ACGIH	Short term exposure limit	40 ppm	
NIOSH	Recommended exposure limit (REL):	25 ppm	
NIOSH	Recommended exposure limit (REL):	100 mg/m3	
NIOSH	Short term exposure limit	40 ppm	
NIOSH	Short term exposure limit	165 mg/m3	
OSHA Z1	Permissible exposure limit	25 ppm	
OSHA Z1	Permissible exposure limit	100 mg/m3	
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT		64742-47-8	
ACGIH	time weighted average	200 mg/m3	Non-aerosol
NIOSH	Recommended exposure limit (REL):	100 mg/m3	

General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure controls

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Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Eye protection

Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist. Maintain eye wash station near work area.

Skin and body protection

Wear normal work clothing including long pants, long-sleeved shirts and foot covering to prevent direct contact of the product with the skin. Launder clothing before reuse. If skin irritation develops, contact your facility health and safety professional or your local safety equipment supplier to determine the proper personal protective equipment for your use.

Wear resistant gloves (consult your safety equipment supplier).

Discard gloves that show tears, pinholes, or signs of wear.

Respiratory protection

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Boiling point/boiling range	271 °F / 133 °C @ 1,013.23 hPa Calculated Phase Transition Liquid/Gas
Flash point	104.99 °F / 40.55 °C Calculated Flash Point
Lower explosion limit/Upper explosion limit	1 %(V) / 5.5 %(V) Calculated Explosive Limit
Vapour pressure	3.732 hPa @ 68 °F / 20 °C Calculated Vapor Pressure
Density	0.840 g/cm3

10. STABILITY AND REACTIVITY

Stability

Stable.

Conditions to avoid

excessive heat

Incompatible products

Acid chlorides, Acids, alkalis, aluminum, Lead, Oxidizing agents, strong reducing agents

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Hazardous decomposition products

carbon dioxide and carbon monoxide, Hydrocarbons

Hazardous reactions

Product will not undergo hazardous polymerization.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin absorption
Skin contact
Eye Contact
Ingestion

Product

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

Skin corrosion/irritation : No data available

Serious eye damage/eye irritation : No data available

Respiratory or skin sensitisation : No data available

Target Organ Systemic Toxicant - Repeated exposure : Target Organs: Exposure to this material (or a component) has been found to cause kidney damage in male rats. The mechanism by which this toxicity occurs is specific to the male rat and the kidney effects are not expected to occur in humans., Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: mild, reversible liver effects, mild, reversible spleen effects, mild, reversible changes in blood cell counts, cataracts, anemia, nasal damage, thymus damage, eye damage, kidney damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: cataracts, eye damage

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Aspiration toxicity : The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Components:

FUEL OIL #2:

Acute oral toxicity : LD 50 Rat: 12 g/kg

METHYL ISOBUTYL CARBINOL:

Acute oral toxicity : LD 50 Rat: 2,590 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC 50 Rat: > 16,000 mg/m³
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
The component/mixture is classified as acute inhalation toxicity, category 5.

Acute dermal toxicity : LD 50 Rabbit: 2,870 mg/kg
Method: OECD Test Guideline 402

Respiratory or skin sensitisation : Test Method: Maximisation Test (GPMT)
Species: guinea pig
Classification: Did not cause sensitisation on laboratory animals.
Method: OECD Test Guideline 406
GLP: yes

Germ cell mutagenicity

Genotoxicity in vitro : Type: in vitro assay
Test species: mouse lymphoma cells
with and without metabolic activation
Result: negative
Method: OECD Test Guideline 476
GLP: yes

: Type: Chromosome aberration test in vitro
Test species: rat hepatocytes
Result: negative
Method: OECD Test Guideline 473 (In vitro Mammalian
Chromosome Aberration Test)

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GLP: yes

: Type: Ames test
with and without metabolic activation
Result: negative
Method: OECD Test Guideline 471

STOT - single exposure : Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness.

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT:

Acute oral toxicity : LD 50 Rat: > 8,000 mg/kg

Acute inhalation toxicity : LC 50 Rat: > 2500 ppm
Exposure time: 4 h

Acute dermal toxicity : LD 50 Rabbit: > 4,000 mg/kg

ETHYLHEXANOL-2:

Acute oral toxicity : LD 50 Rat, Male: 3,290 mg/kg

Acute inhalation toxicity : The component/mixture is classified as acute inhalation toxicity,
category 4.

Acute dermal toxicity : LD 50 Rat: > 3,000 mg/kg
Method: OECD Test Guideline 402
No adverse effect has been observed in acute dermal toxicity
tests.

STOT - single exposure : Assessment: May cause respiratory irritation.

NAPHTHALENE:

Acute oral toxicity : LD50 Oral Rat: 2,200 mg/kg

Acute dermal toxicity : LD50 Dermal Rabbit: > 2.0 g/kg

12. ECOLOGICAL INFORMATION

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Ecotoxicity

Product:

No data available

Components:

METHYL ISOBUTYL CARBINOL:

- Toxicity to fish : NOEC (Pimephales promelas (fathead minnow)): > 92.4 mg/l
Exposure time: 96 h
Test Method: semi-static test
Method: OECD Test Guideline 203
GLP: yes
- LC50 (Pimephales promelas (fathead minnow)): Expected > 100 mg/l
Exposure time: 96 h
Test Method: semi-static test
Method: OECD Test Guideline 203
GLP: yes
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 337 mg/l
Exposure time: 48 h
Test Method: semi-static test
Method: OECD Test Guideline 202
GLP: yes
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 264 mg/l
Exposure time: 72 h
Test Method: static test
Method: OECD Test Guideline 201
GLP: yes
- NOEC (Pseudokirchneriella subcapitata (green algae)): 75.5 mg/l
Exposure time: 72 h
Test Method: static test
Method: OECD Test Guideline 201
GLP: yes
- Toxicity to bacteria : EC 50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Method: Static
Method: OECD Test Guideline 209
GLP: yes

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ETHYLHEXANOL-2:

- Toxicity to fish : LC 50 (Fathead minnow (*Pimephales promelas*)): 28.2 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (*Daphnia magna*)): 39 mg/l
Exposure time: 48 h
- Toxicity to algae : (*Desmodesmus subspicatus* (green algae)): 11.5 mg/l
Exposure time: 72 h
Test Method: static test

NAPHTHALENE:

- Toxicity to fish : LC 50 (Rainbow trout, donaldson trout (*Oncorhynchus mykiss*)): 0.91 - 2.82 mg/l
Exposure time: 96 h
Test Method: static test
- Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (*Daphnia magna*)): 1.09 - 3.4 mg/l
Exposure time: 48 h
Test Method: static test

Persistence and degradability

Product:

No data available

Components:

METHYL ISOBUTYL CARBINOL:

- Biodegradability : Result: Readily biodegradable.
Biodegradation: 85 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
GLP: yes

ETHYLHEXANOL-2:

- Biodegradability : Result: Readily biodegradable.
Biodegradation: 68 %
Exposure time: 17 d
Method: Modified Sturm Test

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Bioaccumulative potential

Product:

No data available

Components:

METHYL ISOBUTYL CARBINOL:

Partition coefficient: n-
octanol/water : log Pow: 1.43

NAPHTHALENE:

Bioaccumulation : Species: Rainbow trout,donaldson trout (Oncorhynchus mykiss)
Exposure time: 16 d
Concentration: 0.023 mg/l
Bioconcentration factor (BCF): 25
Method: Flow through

Partition coefficient: n-
octanol/water : log Pow: 3.30

Mobility in soil

Product:

No data available

Components:

NAPHTHALENE:

Surface tension : 31.8 mN/m

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Dispose of in accordance with all applicable local, state and federal regulations.

14. TRANSPORT INFORMATION

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

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U.S. DOT - ROAD

Not dangerous goods

U.S. DOT - RAIL

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

TRANSPORT CANADA - ROAD

Not dangerous goods

TRANSPORT CANADA - RAIL

Not dangerous goods

TRANSPORT CANADA - INLAND WATERWAYS

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

UN	1993	FLAMMABLE LIQUID, N.O.S. (METHYL ISOBUTYL CARBINOL)	3	III	MARINE POLLUTANT:(PETROLEUM DISTILLATES) LIMITED QUANTITY
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INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	1993	Flammable liquid, n.o.s. (METHYL ISOBUTYL CARBINOL)	3	III	
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INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1993	Flammable liquid, n.o.s. (METHYL ISOBUTYL CARBINOL)	3	III	
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MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

UN	1993	LIQUIDO INFLAMABLE, N.E.P. (METHYL ISOBUTYL CARBINOL)	3	III	
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*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

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15. REGULATORY INFORMATION

California Prop. 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

NAPHTHALENE
PROPYLENE OXIDE
ETHYL BENZENE
CUMENE

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

TOLUENE
METHANOL

SARA Hazard Classification SARA 311/312 Classification

Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 313 Component(s)

NAPHTHALENE	0.41 %
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New Jersey RTK Label Information

FUEL OIL #2	68476-30-2
METHYL ISOBUTYL CARBINOL	108-11-2
QUATERNARY AMINE POLYMER	
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT	64742-47-8
POLYOLEFIN ACID	
ETHYLHEXANOL-2	104-76-7
NAPHTHALENE	91-20-3

Pennsylvania RTK Label Information

FUEL OIL #2	68476-30-2
METHYL ISOBUTYL CARBINOL	108-11-2
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT	64742-47-8
ETHYLHEXANOL-2	104-76-7

Notification status

US. Toxic Substances Control Act	y (positive listing)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)	y (positive listing)
Australia. Industrial Chemical (Notification and Assessment) Act	n (Negative listing)
Japan. ENCS - Existing and New Chemical Substances Inventory	n (Negative listing)
Korea. Toxic Chemical Control Law (TCCL) List	y (positive listing)

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Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	y (positive listing)
China. Inventory of Existing Chemical Substances	y (positive listing)

Reportable quantity - Product

US. EPA CERCLA Hazardous Substances (40 CFR 302)	24283 lbs
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Reportable quantity-Components

NAPHTHALENE	91-20-3	100 lbs
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	HMIS	NFPA
Health	2*	2
Flammability	2	2
Physical hazards	0	
Instability		0
Specific Hazard	--	--

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists

BEI : Biological Exposure Index

CAS : Chemical Abstracts Service (Division of the American Chemical Society).

CMR : Carcinogenic, Mutagenic or Toxic for Reproduction

FG : Food grade

GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement

IATA : International Air Transport Association.

IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization

ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"

IMDG : International Maritime Code for Dangerous Goods

ISO : International Organization for Standardization

logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population

LDxx : Lethal Dose, for xx percent of test population.

ICxx : Inhibitory Concentration for xx of a substance

Ecxx : Effective Concentration of xx

N.O.S.: Not Otherwise Specified

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OECD : Organization for Economic Co-operation and Development

OEL : Occupational Exposure Limit

P-Statement : Precautionary Statement

PBT : Persistent , Bioaccumulative and Toxic

PPE : Personal Protective Equipment

STEL : Short-term exposure limit

STOT : Specific Target Organ Toxicity

TLV : Threshold Limit Value

TWA : Time-weighted average

vPvB : Very Persistent and Very Bioaccumulative

WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act

DOT : Department of Transportation

FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act

HMIRC : Hazardous Materials Information Review Commission

HMIS : Hazardous Materials Identification System

NFPA : National Fire Protection Association

NIOSH : National Institute for Occupational Safety and Health

OSHA : Occupational Safety and Health Administration

PMRA : Health Canada Pest Management Regulatory Agency

RTK : Right to Know

WHMIS : Workplace Hazardous Materials Information System