

Common Name: VALVOLINE FULL SYNTHETIC WITH MAX. TECH. 5W-20 FULL SYNTHETIC MOTOR OIL

Manufacturer: ASHLAND CHEMICAL

SDS Revision Date: 5/22/2015

SDS Format: GHS-US

Item Number(s): 46KK50

Manufacturer Model Number(s):

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ASHLAND (R*)

SAFETY DATA SHEET

REVISION DATE: 05/22/2015

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VERSION: 1.0

VALVOLINE(TM) FULL SYNTHETIC WITH MAX. TECH. 5W-20 FULL SYNTHETIC MOTOR OIL

(TM) TRADEMARK, ASHLAND OR ITS SUBSIDIARIES, REGISTERED IN VARIOUS COUNTRIES

849644

29 CFR 1910.1200 (OSHA HAZCOM 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFIER:

TRADE NAME:

VALVOLINE(TM) FULL SYNTHETIC WITH MAX. TECH. 5W-20 FULL SYNTHETIC MOTOR OIL

(TM) TRADEMARK, ASHLAND OR ITS SUBSIDIARIES, REGISTERED IN VARIOUS COUNTRIES

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE:

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

ASHLAND

P.O. BOX 2219

COLUMBUS, OH 43216

UNITED STATES OF AMERICA

EHS CUSTOMER REQUESTS@ASHLAND.COM

EMERGENCY TELEPHONE NUMBER: 1-800-ASHLAND (1-800-274-5263)

REGULATORY INFORMATION NUMBER: 1-800-325-3751

PRODUCT INFORMATION: 614-790-3333

SECTION 2. HAZARDS IDENTIFICATION



GHS CLASSIFICATION:

THIS MATERIAL IS NOT CONSIDERED HAZARDOUS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (HAZCOM 2012).

GHS LABEL ELEMENT:

THIS MATERIAL IS NOT CONSIDERED HAZARDOUS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (HAZCOM 2012).

OTHER HAZARDS: NONE KNOWN.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS



SUBSTANCE / MIXTURE: MIXTURE

CHEMICAL NATURE: DEFATTER

HAZARDOUS COMPONENTS:

CHEMICAL NAME	CAS-NO.	CLASSIFICATION	CONCENTRATION (%)
HEAVY PARAFFINIC DISTILLATE	64742-54-7	ASP. TOX. 1; H304	19.46
ZINC DIALKYL DITHIOPHOSPHATE	68649-42-3	SKIN IRRIT. 2; H315 AQUATIC ACUTE 2; H401 AQUATIC CHRONIC 2; H411	1.08

SECTION 4. FIRST AID MEASURES



GENERAL ADVICE: NO HAZARDS WHICH REQUIRE SPECIAL FIRST AID MEASURES.

IF INHALED:

IF BREATHED IN, MOVE PERSON INTO FRESH AIR.

IF UNCONSCIOUS PLACE IN RECOVERY POSITION AND SEEK MEDICAL ADVICE.

IF SYMPTOMS PERSIST, CALL A PHYSICIAN.

IN CASE OF SKIN CONTACT:

FIRST AID IS NOT NORMALLY REQUIRED. HOWEVER, IT IS RECOMMENDED THAT EXPOSED AREAS BE CLEANED BY WASHING WITH SOAP AND WATER.

IN CASE OF EYE CONTACT:

REMOVE CONTACT LENSES.
PROTECT UNHARMED EYE.

IF SWALLOWED:

DO NOT GIVE MILK OR ALCOHOLIC BEVERAGES.
NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.
IF SYMPTOMS PERSIST, CALL A PHYSICIAN.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

ACUTE ASPIRATION OF LARGE AMOUNTS OF OIL-LADEN MATERIAL MAY PRODUCE A SERIOUS ASPIRATION PNEUMONIA. PATIENTS WHO ASPIRATE THESE OILS SHOULD BE FOLLOWED FOR THE DEVELOPMENT OF LONG-TERM SEQUELAE. REPEATED ASPIRATION OF SMALL QUANTITIES OF MINERAL OIL CAN PRODUCE CHRONIC INFLAMMATION OF THE LUNGS (I.E. LIPOID PNEUMONIA) THAT MAY PROGRESS TO PULMONARY FIBROSIS. SYMPTOMS ARE OFTEN SUBTLE AND RADIOLOGICAL CHANGES APPEAR WORSE THAN CLINICAL ABNORMALITIES. OCCASIONALLY, PERSISTENT COUGH, IRRITATION OF THE UPPER RESPIRATORY TRACT, SHORTNESS OF BREATH WITH EXERTION, FEVER, AND BLOODY SPUTUM OCCUR. INHALATION EXPOSURE TO OIL MISTS BELOW CURRENT WORKPLACE EXPOSURE LIMITS IS UNLIKELY TO CAUSE PULMONARY ABNORMALITIES.

SIGNS AND SYMPTOMS OF EXPOSURE TO THIS MATERIAL THROUGH BREATHING, SWALLOWING, AND/OR PASSAGE OF THE MATERIAL THROUGH THE SKIN MAY INCLUDE:
ACNE

STOMACH OR INTESTINAL UPSET (NAUSEA, VOMITING, DIARRHEA) IRRITATION (NOSE, THROAT, AIRWAYS)

NOTES TO PHYSICIAN: NO HAZARDS WHICH REQUIRE SPECIAL FIRST AID MEASURES.

SECTION 5. FIREFIGHTING MEASURES



SUITABLE EXTINGUISHING MEDIA:

USE EXTINGUISHING MEASURES THAT ARE APPROPRIATE TO LOCAL CIRCUMSTANCES AND THE SURROUNDING ENVIRONMENT.

WATER SPRAY

FOAM

CARBON DIOXIDE (CO2)

DRY CHEMICAL

SPECIFIC HAZARDS DURING FIREFIGHTING:

DO NOT ALLOW RUN-OFF FROM FIRE FIGHTING TO ENTER DRAINS OR WATER COURSES.

HAZARDOUS COMBUSTION PRODUCTS:

CARBON DIOXIDE AND CARBON MONOXIDE

HYDROCARBONS

SPECIFIC EXTINGUISHING METHODS:

PRODUCT IS COMPATIBLE WITH STANDARD FIRE-FIGHTING AGENTS.

FURTHER INFORMATION: STANDARD PROCEDURE FOR CHEMICAL FIRES.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS:

IN THE EVENT OF FIRE, WEAR SELF-CONTAINED BREATHING APPARATUS.

SECTION 6. ACCIDENTAL RELEASE MEASURES



PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:
PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF
SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED.

ENVIRONMENTAL PRECAUTIONS:
PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:

SOAK UP WITH INERT ABSORBENT MATERIAL (E.G. SAND, SILICA GEL, ACID BINDER,
UNIVERSAL BINDER, SAWDUST).

KEEP IN SUITABLE, CLOSED CONTAINERS FOR DISPOSAL.

OTHER INFORMATION:
COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.

SECTION 7. HANDLING AND STORAGE



ADVICE ON SAFE HANDLING:
SMOKING, EATING AND DRINKING SHOULD BE PROHIBITED IN THE APPLICATION AREA.
FOR PERSONAL PROTECTION SEE SECTION 8.

CONDITIONS FOR SAFE STORAGE:
ELECTRICAL INSTALLATIONS / WORKING MATERIALS MUST COMPLY WITH THE
TECHNOLOGICAL SAFETY STANDARDS.

MATERIALS TO AVOID: NO MATERIALS TO BE ESPECIALLY MENTIONED.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION



COMPONENTS WITH WORKPLACE CONTROL PARAMETERS:

ENGINEERING MEASURES:
GENERAL ROOM VENTILATION SHOULD BE ADEQUATE FOR NORMAL CONDITIONS OF USE.
HOWEVER, IF UNUSUAL OPERATING CONDITIONS EXIST, 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.

PERSONAL PROTECTIVE EQUIPMENT:

RESPIRATORY PROTECTION:
NO PERSONAL RESPIRATORY PROTECTIVE EQUIPMENT NORMALLY REQUIRED.

EYE PROTECTION:
NOT REQUIRED UNDER NORMAL CONDITIONS OF USE. WEAR SPLASH-PROOF SAFETY
GOGGLES IF MATERIAL COULD BE MISTED OR SPLASHED INTO EYES.

SKIN AND BODY PROTECTION:

WEAR AS APPROPRIATE:
SAFETY SHOES
WEAR RESISTANT GLOVES (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER).

HYGIENE MEASURES: GENERAL INDUSTRIAL HYGIENE PRACTICE.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES



PHYSICAL STATE: LIQUID

ODOUR: NO DATA AVAILABLE

ODOUR THRESHOLD: NO DATA AVAILABLE

PH: NO DATA AVAILABLE

MELTING POINT/FREEZING POINT: NO DATA AVAILABLE

BOILING POINT/BOILING RANGE: NO DATA AVAILABLE

FLASH POINT: >390 DEG. F / >199 DEG. C

METHOD: CLEVELAND OPEN CUP

EVAPORATION RATE: NO DATA AVAILABLE

FLAMMABILITY (SOLID, GAS): NO DATA AVAILABLE

UPPER EXPLOSION LIMIT: NO DATA AVAILABLE

LOWER EXPLOSION LIMIT: NO DATA AVAILABLE

VAPOUR PRESSURE: NO DATA AVAILABLE

RELATIVE VAPOUR DENSITY: NO DATA AVAILABLE

RELATIVE DENSITY: NO DATA AVAILABLE

DENSITY: 0.849 G/CM3

SOLUBILITY (IES):

WATER SOLUBILITY: NO DATA AVAILABLE

SOLUBILITY IN OTHER SOLVENTS: NO DATA AVAILABLE

PARTITION COEFFICIENT N-OCTANOL/WATER: NO DATA AVAILABLE

THERMAL DECOMPOSITION: NO DATA AVAILABLE

VISCOSITY:

VISCOSITY, DYNAMIC: NO DATA AVAILABLE

VISCOSITY, KINEMATIC: 50.4 MM2/S (40 DEG. C)

OXIDIZING PROPERTIES: NO DATA AVAILABLE

SECTION 10. STABILITY AND REACTIVITY



REACTIVITY: NO DECOMPOSITION IF STORED AND APPLIED AS DIRECTED.

CHEMICAL STABILITY: STABLE UNDER RECOMMENDED STORAGE CONDITIONS.

POSSIBILITY OF HAZARDOUS REACTIONS:

PRODUCT WILL NOT UNDERGO HAZARDOUS POLYMERIZATION.

INCOMPATIBLE MATERIALS: STRONG OXIDIZING AGENTS

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON DIOXIDE AND CARBON MONOXIDE

HYDROCARBONS

SECTION 11. TOXICOLOGICAL INFORMATION



INFORMATION ON LIKELY ROUTES OF EXPOSURE:

INHALATION

SKIN CONTACT

EYE CONTACT
INGESTION

ACUTE TOXICITY: NOT CLASSIFIED BASED ON AVAILABLE INFORMATION.

COMPONENTS:

HEAVY PARAFFINIC DISTILLATE:

ACUTE ORAL TOXICITY:
LD50 (RAT): >15 G/KG

ACUTE DERMAL TOXICITY:
LD50 (RABBIT): >5 G/KG

ZINC DIALKYL DITHIOPHOSPHATE:

ACUTE ORAL TOXICITY:
LD50 (RAT): >2,000 - 5,000 MG/KG

ACUTE DERMAL TOXICITY:
LD50 (RABBIT): >2,000 MG/KG

ASSESSMENT: NOT CLASSIFIED AS ACUTELY TOXIC BY DERMAL ABSORPTION UNDER GHS.

SKIN CORROSION/IRRITATION: NOT CLASSIFIED BASED ON AVAILABLE INFORMATION.

PRODUCT:

RESULT: SLIGHTLY IRRITATING TO SKIN

REMARKS: EXPECTED BASED ON COMPONENTS.

RESULT: REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS OR CRACKING.

COMPONENTS:

HEAVY PARAFFINIC DISTILLATE:

RESULT: MILDLY IRRITATING TO SKIN

ZINC DIALKYL DITHIOPHOSPHATE:

RESULT: IRRITATING TO SKIN

SERIOUS EYE DAMAGE/EYE IRRITATION:
NOT CLASSIFIED BASED ON AVAILABLE INFORMATION.

PRODUCT:

RESULT: SLIGHTLY IRRITATING TO EYES

REMARKS: EXPECTED BASED ON COMPONENTS.

REMARKS: UNLIKELY TO CAUSE EYE IRRITATION OR INJURY.

COMPONENTS:

HEAVY PARAFFINIC DISTILLATE:

RESULT: NOT IRRITATING TO EYES

ZINC DIALKYL DITHIOPHOSPHATE:

RESULT: POSSIBLY IRRITATING TO EYES

RESPIRATORY OR SKIN SENSITIZATION:

SKIN SENSITIZATION: NOT CLASSIFIED BASED ON AVAILABLE INFORMATION.

RESPIRATORY SENSITIZATION: NOT CLASSIFIED BASED ON AVAILABLE INFORMATION.

GERM CELL MUTAGENICITY: NOT CLASSIFIED BASED ON AVAILABLE INFORMATION.

CARCINOGENICITY: NOT CLASSIFIED BASED ON AVAILABLE INFORMATION.

REPRODUCTIVE TOXICITY: NOT CLASSIFIED BASED ON AVAILABLE INFORMATION.

STOT - SINGLE EXPOSURE: NOT CLASSIFIED BASED ON AVAILABLE INFORMATION.

STOT - REPEATED EXPOSURE: NOT CLASSIFIED BASED ON AVAILABLE INFORMATION.

ASPIRATION TOXICITY: NOT CLASSIFIED BASED ON AVAILABLE INFORMATION.

COMPONENTS:

HEAVY PARAFFINIC DISTILLATE:
MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.

FURTHER INFORMATION:

PRODUCT:
REMARKS: NO DATA AVAILABLE

CARCINOGENICITY:

IARC:
NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC.

OSHA:
NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY OSHA.

NTP:
NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.

SECTION 12. ECOLOGICAL INFORMATION



ECOTOXICITY:

COMPONENTS:

HEAVY PARAFFINIC DISTILLATE:

TOXICITY TO FISH:
LL50 (FISH): >100 MG/L

TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES:
EL50 (AQUATIC INVERTEBRATES): >10,000 MG/L

TOXICITY TO ALGAE:
EL50 (ALGAE, ALGAL MAT (ALGAE)): >100 MG/L

TOXICITY TO FISH (CHRONIC TOXICITY):
NOEC (FISH): 10 MG/L

TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES (CHRONIC TOXICITY):
NOEC (AQUATIC INVERTEBRATES): 10 MG/L

ZINC DIALKYL DITHIOPHOSPHATE:

ECOTOXICOLOGY ASSESSMENT:
ACUTE AQUATIC TOXICITY: TOXIC TO AQUATIC LIFE.

CHRONIC AQUATIC TOXICITY: TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

PERSISTENCE AND DEGRADABILITY:
COMPONENTS: NO DATA AVAILABLE

BIOACCUMULATIVE POTENTIAL:
COMPONENTS: NO DATA AVAILABLE

MOBILITY IN SOIL:
COMPONENTS: NO DATA AVAILABLE

OTHER ADVERSE EFFECTS: NO DATA AVAILABLE

PRODUCT:
ADDITIONAL ECOLOGICAL INFORMATION: NO DATA AVAILABLE

COMPONENTS:

SECTION 13. DISPOSAL CONSIDERATIONS



DISPOSAL METHODS:

GENERAL ADVICE:
DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

CONTAMINATED PACKAGING: EMPTY REMAINING CONTENTS.

SECTION 14. TRANSPORT INFORMATION



INTERNATIONAL TRANSPORT REGULATIONS:

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: NOT DANGEROUS GOODS

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO: NOT DANGEROUS GOODS

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER: NOT DANGEROUS GOODS

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES: NOT DANGEROUS GOODS

*ORM = ORM-D
CBL = COMBUSTIBLE LIQUID

MARINE POLLUTANT: NO

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.

SECTION 15. REGULATORY INFORMATION



SARA 311/312 HAZARDS: NO SARA HAZARDS

SARA 313 COMPONENT(S):

ZINC DIALKYL DITHIOPHOSPHATE 68649-42-3 1.08%

PHOSPHORODITHIOIC ACID, MIXED 84605-29-8 0.53%
O,O-BIS(1,3-DIMETHYLBUTYL AND
ISO-PR) ESTERS, ZINC SALTS

PENNSYLVANIA RIGHT TO KNOW:

HYDROTREATED HEAVY PARAFFINIC BASE OIL 64742-54-7 70.00 - 90.00%

HEAVY PARAFFINIC DISTILLATE 64742-54-7 10.00 - 20.00%

HEAVY PARAFFINIC DISTILLATE 64742-54-7 10.00 - 20.00%

LUBRICANT ADDITIVE NOT ASSIGNED 5.00 - 10.00%

NEW JERSEY RIGHT TO KNOW:

HYDROTREATED HEAVY PARAFFINIC BASE OIL 64742-54-7 70.00 - 90.00%

HEAVY PARAFFINIC DISTILLATE 64742-54-7 10.00 - 20.00%

HEAVY PARAFFINIC DISTILLATE 64742-54-7 10.00 - 20.00%

LUBRICANT ADDITIVE NOT ASSIGNED 5.00 - 10.00%

HYDROCARBON POLYMER NOT ASSIGNED 1.00 - 5.00%

ZINC DIALKYL DITHIOPHOSPHATE 68649-42-3 1.00 - 5.00%

CALIFORNIA PROP 65:

PROPOSITION 65 WARNINGS ARE NOT REQUIRED FOR THIS PRODUCT BASED ON THE
RESULTS OF A RISK ASSESSMENT.

THE COMPONENTS OF THIS PRODUCT ARE REPORTED IN THE FOLLOWING INVENTORIES:

TSCA: ON TSCA INVENTORY

DSL: ALL COMPONENTS OF THIS PRODUCT ARE ON THE CANADIAN DSL.

AUSTR: NOT IN COMPLIANCE WITH THE INVENTORY

ENCS: NOT IN COMPLIANCE WITH THE INVENTORY

KECL: ON THE INVENTORY, OR IN COMPLIANCE WITH THE INVENTORY

PICCS: ON THE INVENTORY, OR IN COMPLIANCE WITH THE INVENTORY

IECSC: ON THE INVENTORY, OR IN COMPLIANCE WITH THE INVENTORY

INVENTORIES:

AICS (AUSTRALIA), DSL (CANADA), IECSC (CHINA), REACH (EUROPEAN UNION), ENCS
(JAPAN), ISHL (JAPAN), KECI (KOREA), NZIOC (NEW ZEALAND), PICCS
(PHILIPPINES), TSCA (USA)

SECTION 16. OTHER INFORMATION



FURTHER INFORMATION:

REVISION DATE: 05/22/2015

NFPA:

HEALTH 0

FLAMMABILITY 1

INSTABILITY 0

SPECIAL HAZARD.

HMIS III:

HEALTH 1
FLAMMABILITY 1
PHYSICAL HAZARD 0

0 = NOT SIGNIFICANT
1 = SLIGHT
2 = MODERATE
3 = HIGH
4 = EXTREME
* = CHRONIC

NFPA FLAMMABLE AND COMBUSTIBLE LIQUIDS CLASSIFICATION:
COMBUSTIBLE LIQUID CLASS IIIB

FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.:
H304: MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.
H315: CAUSES SKIN IRRITATION.
H401: TOXIC TO AQUATIC LIFE.
H411: TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

SOURCES OF KEY DATA USED TO COMPILE THE SAFETY DATA SHEET

ASHLAND INTERNAL DATA INCLUDING OWN AND SPONSORED TEST REPORTS

THE UNECE ADMINISTERS REGIONAL AGREEMENTS IMPLEMENTING HARMONIZED
CLASSIFICATION FOR LABELING (GHS) AND TRANSPORT.

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 SDS 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

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