



SAFETY DATA SHEET DURAD 150B REVISION 3, DATE 29 JAN 20

1. IDENTIFICATION

Product Name	DURAD 150B
Other Names	No Data Available
Uses	Lubricant; Additive. Reserved for industrial and professional use.
Chemical Family	No Data Available
Chemical Formula	Unspecified
Chemical Name	Phenol, isobutyleneated, phosphate (3:1) [Triphenyl phosphate >25%]
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)

Not Scheduled



Globally Harmonised System

Hazard Classification	Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)
Hazard Categories	Acute Hazard To The Aquatic Environment - Category 1 Long-term Hazard To The Aquatic Environment - Category 1

Pictograms



Signal Word Warning

Hazard Statements **H410** Very toxic to aquatic life with long lasting effects.

Precautionary Statements	Prevention	P273	Avoid release to the environment.
	Response	P391	Collect spillage.
	Disposal	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Environmental Hazards	9.1A	Substances that are very ecotoxic in the aquatic environment
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3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Phenol, isobutyleneated, phosphate (3:1) [Triphenyl phosphate >25%]	Unspecified	68937-40-6	>=60 - <=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then give 2 glasses of water to drink. Do not induce vomiting. Get immediate medical advice/attention. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.

Skin	IF ON SKIN: Remove and isolate contaminated clothing and shoes. Immediately flush skin with running water for at least 15 minutes. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
Advice to Doctor	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Dike fire-control water for later disposal.
Flammability Conditions	Combustible liquid (C2); The product will burn if exposed to fire.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), foam or water spray/mist for extinction. Do not scatter spilled material with high-pressure water streams.
Fire and Explosion Hazard	Containers may explode when heated.
Hazardous Products of Combustion	Fire may produce irritating, toxic and/or corrosive fumes, including oxides of phosphorus, carbon oxides.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may cause pollution.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
Flash Point	>=199 °C [COC]
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	535 °C
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Avoid breathing vapours and contact with eyes, skin and clothing.
Clean Up Procedures	Absorb with earth, sand or other non-combustible material and transfer to a suitable, labelled container for disposal (see SECTION 13). *Do not flush into surface water or sanitary sewer system.
Containment	Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas.
Decontamination	No information available.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses. If contamination of sewers and waterways occurs, inform the local water and waste management authorities in accordance with local regulations.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.
Personal Precautionary Measures	Wear suitable protective clothing, gloves and eye/face protection (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Prevent the build up of mist/vapours in the work atmosphere. Avoid breathing mist/vapours/aerosols and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Avoid release to the environment - Collect spillage (see SECTION 6). Do not use near ignition sources - No smoking. Take precautionary measures against static electricity discharges. Use proper grounding procedures.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed when not in use and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Keep away from heat and sources of ignition - No smoking. Keep away from foodstuffs and incompatible materials (see SECTION 10). Have appropriate fire extinguishers available in and near the storage area. Ensure that storage conditions comply with applicable local and national regulations.
Container	Keep in the original container. *Do not pressurise, cut, heat or weld on or near containers as they may contain hazardous residues.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. COMPONENT: Triphenyl phosphate (CAS No. 115-86-6): - Safe Work Australia Exposure Standard: TWA = 3 mg/m ³ - New Zealand Workplace Exposure Standard: TWA = 3 mg/m ³
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. *Where vapours or mists are generated, particularly in enclosed areas, a flame-proof exhaust ventilation system is required.
Personal Protection Equipment	- Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. Recommended: Respirator with combination filter for vapour/particulate, ABEK-P2 filter (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses with side-shields. - Hand protection: Handle with gloves. Recommended: Long sleeve gloves, e.g. Nitrile rubber (Break-through time: >480 min. Glove thickness: 0.4 mm). Before removing gloves clean them with soap and water. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Lab coat; Impervious clothing.
Special Hazards Precautions	These recommendations apply to the product as supplied. Please follow all applicable local/national requirements when selecting protective measures for a specific workplace.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash hands before breaks and at the end of workday. Take off contaminated clothing and wash it before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Odourless
Colour	Colourless
pH	No Data Available
Vapour Pressure	<1 hPa (@ 150 °C)
Relative Vapour Density	No Data Available
Boiling Point	No Data Available

Melting Point	-21 °C
Freezing Point	No Data Available
Solubility	3.2 mg/l in water 22°C
Specific Gravity	1.1400 - 1.1800
Flash Point	>=199 °C [COC]
Auto Ignition Temp	535 °C
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	1.76 g/cm3
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	log Pow: 4.68 (25 °C)
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	28.8 - 35.2 mPa.s (@ 40 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Combustible liquid (C2); The product will burn if exposed to fire.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating, toxic and/or corrosive fumes, including oxides of phosphorus, carbon oxides.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No dangerous reaction known under conditions of normal use.
Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Keep away from heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with strong oxidising agents.
Hazardous Decomposition Products	Fire/decomposition may produce irritating, toxic and/or corrosive fumes, including oxides of phosphorus, carbon oxides.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION**General Information**

Information on possible routes of exposure:

- Ingestion: Ingestion of the product may irritate the gastric tract causing nausea and vomiting.
 - Eye contact: May be irritating to eyes. Symptoms may include redness, itching and tearing.
 - Skin contact: May be irritating to skin. Symptoms may include redness, itching and swelling.
 - Inhalation: Inhalation of product vapours may cause irritation of the nose, throat and respiratory system.
- Chronic effects: Not considered to be a mutagenic hazard. Not considered to be a carcinogenic hazard. Not considered to be toxic to reproduction.

*No aspiration toxicity classification. The toxicological data has been taken from products of similar composition.

Acute**Ingestion**

Acute toxicity (Oral):

- LD50, Rat: >5,000 mg/kg [Product; Supplier's SDS].
- *Information given is based on data obtained from similar substances.

Other

Acute toxicity (Dermal):

- LD50, Rat: >2,000 mg/kg [Product; Supplier's SDS].
- *Information given is based on data obtained from similar substances.

Inhalation

Acute toxicity (Inhalation):

- COMPONENT: Phenol, isobutylated, phosphate [Triphenyl phosphate > 25%]:
- LC50, Rat: >0.4 mg/l (6 h, vapour) [Supplier's SDS].
 - *No adverse effects.

Carcinogen Category

None

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Aquatic toxicity:

- COMPONENT: Phenol, isobutylated, phosphate (3:1) [Triphenyl phosphate >25%]:
- LC50, Fish: 0.8 mg/l (96 h).
 - EC50, Crustacea (Daphnia magna): 0.202 mg/l (48 h).
 - NOEC, Fish: 0.093 mg/l (90 d).
 - NOEC, Crustacea: 0.0399 mg/l (21 d).

Persistence/Degradability

- COMPONENT: Phenol, isobutylated, phosphate (3:1) [Triphenyl phosphate >25%]:
- Readily biodegradable.

Mobility

No information available.

Environmental Fate

Very toxic to aquatic life with long lasting effects. Avoid release to the environment. Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected.

Bioaccumulation Potential

- COMPONENT: Phenol, isobutylated, phosphate (3:1) [Triphenyl phosphate >25%]:
- Bioconcentration factor (BCF): 1,850 (Lepomis macrochirus).
 - Partition coefficient: n-octanol/water (log Pow): 4.68 (25 °C).

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS**General Information**

Dispose of waste from residues in accordance with local regulations. Offer surplus and non-recyclable solutions to a licensed disposal company.

*Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container.

Special Precautions for Land Fill

Contaminated packaging: Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

14. TRANSPORT INFORMATION**Land Transport (Australia)**

ADG Code

Proper Shipping Name	DURAD 150B
Class	C2 Combustible Liquids - Flash Point >93°C, Closed Cup, Not Excluded Flammable
Subsidiary Risk(s)	No Data Available
EPG	47 Low To Moderate Hazard Substances
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	AU01
Comments	Not regulated as DG when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg(L) or IBCs.

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, isobutyleneated, phosphate (3:1) [Triphenyl phosphate >25%])
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
EPG	47 Low To Moderate Hazard Substances
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, isobutyleneated, phosphate (3:1) [Triphenyl phosphate >25%])
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
EPG	47 Low To Moderate Hazard Substances
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, isobutyleneated, phosphate (3:1) [Triphenyl phosphate >25%])
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
ERG	171 Substances (Low to Moderate Hazard)
UN Number	3082

Hazchem	3Z
Pack Group	III
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, isobutyleneated, phosphate (3:1) [Triphenyl phosphate >25%])
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available
EMS	F-A, S-F
Marine Pollutant	Yes

Air Transport

IATA DGR

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, isobutyleneated, phosphate (3:1) [Triphenyl phosphate >25%])
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR002503
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National/Regional Inventories

Australia (AIIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Listed
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Listed
Korea (KECI)	Listed
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Listed

16. OTHER INFORMATION

Related Product Codes	LUBEAD2390
Revision	3
Revision Date	29 Jan 2020
Reason for Issue	New SDS
Key/Legend	<p>< Less Than</p> <p>> Greater Than</p> <p>AICS Australian Inventory of Chemical Substances</p> <p>atm Atmosphere</p> <p>CAS Chemical Abstracts Service (Registry Number)</p> <p>cm² Square Centimetres</p> <p>CO₂ Carbon Dioxide</p> <p>COD Chemical Oxygen Demand</p> <p>deg C (°C) Degrees Celcius</p> <p>EPA (New Zealand) Environmental Protection Authority of New Zealand</p> <p>deg F (°F) Degrees Fahrenheit</p> <p>g Grams</p> <p>g/cm³ Grams per Cubic Centimetre</p> <p>g/l Grams per Litre</p> <p>HSNO Hazardous Substance and New Organism</p> <p>IDLH Immediately Dangerous to Life and Health</p> <p>immiscible Liquids are insoluable in each other.</p> <p>inHg Inch of Mercury</p> <p>inH₂O Inch of Water</p> <p>K Kelvin</p> <p>kg Kilogram</p> <p>kg/m³ Kilograms per Cubic Metre</p>

lb Pound

LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.

LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.

ltr or **L** Litre

m³ Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 Hours

mg/kg Milligrams per Kilogram

mg/m³ Milligrams per Cubic Metre

Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

mm Millimetre

mmH₂O Millimetres of Water

mPa.s Millipascals per Second

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health

NOHSC National Occupational Health and Safety Commission

OECD Organisation for Economic Co-operation and Development

Oz Ounce

PEL Permissible Exposure Limit

Pa Pascal

ppb Parts per Billion

ppm Parts per Million

ppm/2h Parts per Million per 2 Hours

ppm/6h Parts per Million per 6 Hours

psi Pounds per Square Inch

R Rankine

RCP Reciprocal Calculation Procedure

STEL Short Term Exposure Limit

TLV Threshold Limit Value

tne Tonne

TWA Time Weighted Average

ug/24H Micrograms per 24 Hours

UN United Nations

wt Weight