

===== Product Identification =====

Product ID:8Q462,AEROSHELL PERFORMANCE ADDITIVE 101

MSDS Date:01/05/1998

FSC:6850

NIIN:01-474-4852

MSDS Number: CLCJN

=== Responsible Party ===

Company Name:SHELL AVIATION LTD

Address:SHELL-MEX HOUSE, STRAND

City:LONDON WC2R 0ZA

Country:UK

Info Phone Num:44-(0)171-546-2094

Emergency Phone Num:+44-(0)171-257-5515

Resp. Party Other MSDS Num.:DMC0

5100

Preparer's Name:NOT PROVIDED

CAGE:KA832

=== Contractor Identification ===

Company Name:SHELL AVIATION LTD

Address:SHELL-MEX HOUSE, STRAND

Box:City:LONDON WC2R 0ZA

Country:UK

Phone:44-(0)171-546-2094

Contract Num:SP0450-01-M-ZA86

CAGE:KA832

Company Name:SHELL AVIATION LTD

Address:SHELL-MEX HOUSE, STRAND

Box:City:LONDON WC2R 0ZA

Country:UK

Phone:44-(0)171-546-2094

Contract Num:SP0450-01-M-ZC55

CAGE:KA832

Company Name:SHELL AVIATION LTD

Address:SHELL-MEX HOUSE, STRAND

Box:City:LONDON WC2R 0ZA

Country:UK

Phone:44-(0)171-546-2094

Contract Num:SP0450-01-M-ZD67

CAGE:KA832

Company Name:SHELL AVIATION LTD

Address:SHELL-MEX HOUSE, STRAND

Box:City:LONDON WC2R 0ZA

Country:UK

Phone:44-(0)171-546-2094

Contract Num:SP0450-01-M-ZE78

CAGE:KA832

Company Name:SHELL AVIATION LTD

Address:SHELL-MEX HOUSE, STRAND

Box:City:LONDON WC2R 0ZA

Country:UK

Phone:44-(0)171-546-2094

Contract Num:SP0450-02-M0M059

CAGE:KA832

===== Composition/Information on Ingredients =====

Ingred Name:DISTILLA

TES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC
CAS:64742-65-0
RTECS #:PY8038501
Minumum % Wt:1.
Maxumum % Wt:5.
Other REC Limits:NOT PROVIDED
OSHA PEL:NOT PROVIDED
ACGIH TLV:5 MG/M3 (OIL MIST)

Ingred Name:SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC
CAS:64742-94-5
RTECS #:WF3100000
Minumum % Wt:50.
Maxumum % Wt:80.
Other REC Limits:NOT PROVIDED
OSHA PEL:NOT PROVIDED
ACGIH TLV:NOT PROVIDED

Ingred Name:NAPHTHALENE
CAS:91-20-3
RTECS #:OJ0525000
Minumum % Wt:5.
Maxumum % Wt:10.
Other REC Limits:
NOT PROVIDED
OSHA PEL:50 MG/M3;10 PPM
ACGIH TLV:52 MG/M3;10 PPM
ACGIH STEL:79 MG/M3;15 PPM
EPA Rpt Qty:100 LBS
DOT Rpt Qty:100 LBS

Ingred Name:BUTYLATED HYDROXYTOLUENE
CAS:128-37-0
RTECS #:GO7875000
Minumum % Wt:5.
Maxumum % Wt:10.
Other REC Limits:NOT PROVIDED
OSHA PEL:NOT PROVIDED
ACGIH TLV:10 MG/M3

Ingred Name:DMSO EXTRACT BY IP346 FROM INGREDIENT #1
< Wt:3.
Other REC Limits:NOT PROVIDED
OSHA PEL:NOT PROVIDED
ACGIH TLV:NOT PROVIDED

===== Hazards Identification =====

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LD50 LC50 Mixture:LD50>2000 MG/KG

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:HUMAN HEALTH HAZARDS: EXCESSIVE DERMAL EXPOSURE CAUSES DEFATTING AND DRYING OF SKIN. INHALATION OF VAPORS MAY CAUSE IRRITATION OF THE RESPIRATORY TRACT, DIZZINESS, HEADACHE, NAUSEA.

Explanation of Carcinogenicity:THIS PRODUCT HAS NOT BEEN EVALUATED IN LONG-TERM CHRONIC EXPOSURE TESTS. DERMAL APPLICATION TO MICE EXPECTED TO CAUSE TUMORS. CARCIN

OGENIC RESPONSE MAY BE A

CONSEQUENCE OF REPEAT, LOCAL CONTACT AND TH E EXPOSURE CONDITIONS.

Effects of Overexposure:PROLONGED EXPOSURE TO VAPOR/MIST CONCENTRATIONS ABOVE THE RECOMMENDED OCCUPATIONAL EXPOSURE STANDARD MAY CAUSE: HEADACHE, DIZZINESS, NAUSEA, IRRITATION OF THE EYES, UPPER RESPIRATORY TRACT, MOUTH, DIG ESTIVE TRACT, ASPHYXIATION, UNCONSCIOUSNESS & EVEN DEATH. SPLASES INTO THE EYE MAY CAUSE IRRITATION & CONJUNCTIVITIS. IF INGESTED CAN LEAD TO IRRITATION OF

THE MOUTH, IRRITATION OF THROAT, IRRITATION OF DIGESTIVE TRACT, VOMITING, CONVULSION & COMA. ASPIRATION INTO THE LUNGS MAY OCCUR DIRECTLY OR FOLLOW INGESTION. THIS CAN CAUSE CHEMICAL PNEUMONITIS WHICH MAY BE FATAL.

===== First Aid Measures =====

First Aid:INHALATION: REMOVE TO FRESH AIR. IF BREATHING BUT UNCONSCIOUS, PLACE IN RECOVERY POSITION. IF BREATHING HAS STOPED, APPLY ARTIFICIAL RESPIRATION. IF HEARTBEAT ABSENT GIVE EXTERNAL

CARDIAC COMPRESSION. MONITOR BREATHING AND PULSE. OBTAIN MEDICAL ATTENTION IMMEDIATELY. SKIN: WASH SKIN WITH WATER USING SOAP IF AVAILABLE. CONTAMINATED CLOTHING MUST BE REMOVED AS SOON AS POSSIBLE. EYE: FLUSH EYE WITH W ATER. IF PERSISTENT IRRITATION OCCURS, OBTAIN MEDICAL ATTENTION. INGESTION: DO NOT DELAY. DO NOT INDUCE VOMITING. PROTECT THE AIRWAY IF VOMITING BEGINS. GIVE NOTHING BY MOUTH. OBTAIN MEDICAL ATTENTION IMMEDIATELY.

===== Fire Fighting

Measures =====

Flash Point Method:PMCC
Flash Point:=74.C, 165.2F
Extinguishing Media:FOAM AND DRY CHEMICAL POWDER. CARBON DIOXIDE, SAND OR EARTH MAY BE USED FOR SMALL FIRES ONLY. UNSUITABLE EXTINGUISHING MEDIA: WATER IN A JET.
Fire Fighting Procedures:PROPER PROTECTIVE EQUIPMENT INCLUDING BREATHING APPARATUS MUST BE WORN WHEN APPROACHING A FIRE IN A CONFINED SPACE. KEEP ADJACENT CONTAINERS COOL BY SPRAYING WITH WATER. USE OF HALON EXTINGUISHERS SHO ULD BE A VOIDED FOR ENVIRONMENTAL REASONS.
Unusual Fire/Explosion Hazard:NOT PROVIDED

===== Accidental Release Measures =====

Spill Release Procedures:WEAR IMPERVIOUS OVERALLS. PREVENT FROM ENTERING INTO DRAINS, DITCHES OR RIVERS. SMALL SPILLAGE: ABSORB OR CONTAIN LIQUID WITH SAND, EARTH/SPILL CONTROL MATERIAL. SHOVEL INTO A SUITABLE, CLEARLY MARKED CONTAINER FOR SUBSEQUENT SAFE DISPOSAL IN ACCORDANCE WITH LOCAL REGULATIONS. LARGE SPILLAGE: PREVENT FROM SPREADING BY MAKING A BARRIER WITH SAND OR EARTH. RECLAIM LIQUID DIRECTLY/ IN AN ABSORBENT.

===== Handling and Storage =====

Handling and Storage Precautions:KEEP ONLY IN ORIGINAL CONTAINER. KEEP IN A COOL, DRY, WELL VENTILATED PLACE. KEEP AWAY FROM SOURCES OF HEAT OR IGNITION. KEEP IN A BUNDED AREA. KEEP AT AMBIENT TEMPERATURE. ELECTROSTATIC CHARGES MAY B E GENERATED DURING PUMPING. ENSURE ELECTRICAL CONTINUITY BY BONDING ALL EQUIPMENT .
Other Precautions:NEVER SIPHON BY MOUTH. WHEN USING DO NOT EAT, DRINK OR SMOKE. ONLY USE IN WELL VENTILATED AREAS. WHEN HANDLING PRODUCT IN DRMS OR TOTES, SAFETY FOOTWEAR SHOULD BE WORN AND PROPER HANDLING EQUIPMENT SH OULD BE USED. PREVENT SPILLAGE.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:NOT NORMALLY REQUIRED. IF RISK OF INHILATION WEAR HALF MASK RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE AND BUILT-IN PARTICULATE FILTER NP

F 20 (GAS ONLY).
Ventilation:NOT PROVIDED
Protective Gloves:PVC OR NITRILE RUBBER
Eye Protection:CHEMICAL MONOGOGGLES IF SPLASHES LIKELY TO OCCUR/IN HIGH PRESSURE APPLICATIONS.
Other Protective Equipment:WEAR OVERALLS TO MINIMIZE CONTAMINATION OF PERSONAL CLOTHING. SAFETY SHOES OR BOOTS-CHEMICAL RESISTANT. IF SPLASHES ARE LIKELY TO OCCUR WEAR A PVC APRON. MINIMIZE ALL FORMS OF SKIN CONTACT.
Work Hygienic Practices:LAUNDER OVERALLS AND UNDERGARMENTS REGULARLY. WASH HANDS BEFORE EATING, DRINKING, SMOKING AND USING THE TOILET.
Supplemental Safety and Health
ABBREVIATION: N/A = NOT APPLICABLE. N/AV = NOT AVAILABLE. N/K = UNKNOWN. N/P = NOT PROVIDED. N/R = NOT RELEVANT. N/D = NOT DETERMINED. N/E = NOT ESTABLISHED.

===== Physical/Chemical Properties =====

HCC:V4
NRC/State Lic Num:NOT RELEVANT
Boiling Pt:B.P. Text:NOT PROVIDED
Melt/Freeze Pt:M.P/F.P Text:NOT PROVIDED
Decomp Temp:Decomp Text:NOT PROVIDED
Vapor Pres:DATA NOT AVAILABLE.
Vapor Density:>1(AIR=1)
Spec Gravity:0.911
Viscosity:NOT PROVIDED
Solubility in Water: 2000 MG/KG (ESTIMATED VALUE). ACUTE TOXICITY - DERMAL: LD50 > 2000 MG/KG (ESTIMATED VALUE). EYE IRRITATION: EXPECTED TO BE SLIGHTLY IRRITANT. SKIN IRRITATION: IRRITANT. (SUB) CHRONIC TOXICITY: THIS PRODUCT HAS NOT BEEN EVALUATED IN LONG-TERM CHRONIC EXPOSURE TESTS. REPEATED SKIN EXPOSURE EXPECTED TO CAUSE MODERATE TO SEVERE IRRITATION. REPEATED INHALATION OF MISTS EXPECTED TO CAUSE IRRITATION OF THE RESPIRATORY TRACT.

===== Ecological Information =====

Ecological:ECOTOXICOLOGICAL DATA HAVE NOT BEEN DETERMINED SPECIFICALLY FOR THIS PRODUCT. INFORMATION GIVEN IS BASED ON A KNOWLEDGE OF THE COMPONENTS AND THE ECOTOXICOLOGY OF SIMILAR PRODUCTS. MOBILITY: LIQUID UNDER MOST ENVIRONMENTAL CONDITIONS, EMULSIFIES IN WATER. PRODUCT REMAINING ON SOIL SURFACE WILL PARTLY EVAPORATE, BUT A SIGNIFICANT PORTION WILL REMAIN AFTER ON

E DAY AND MAY CONTAMINATE

GROUNDWATER. DE GRADABILITY: COD: 2510 MGO2/G. TOC: 835 MGC/G.

CLOSED BOTTLE TEST: 35% DEGRADATION AFTER 28 DAYS. ECOTOXICITY:

ESTIMATED TO BE MODERATELY TOXIC.

===== Disposal Considerations =====

Waste Disposal Methods:WASTE ARISING FROM A SPILLAGE SHOULD BE DISPOSED OF IN ACCORDANCE WITH PREVAILING REGULATIONS, PREFERABLY TO A RECOGNISED COLLECTOR OR CONTRACTOR. THE COMPETENCE OF THE CONTRACTOR SHOULD BE ESTABLISHED BEFOREHAND. DO NOT DISPOSE INTO

THE ENVIRONMENT, IN DRAINS OR IN WATER COURSES. ALL CONTAINERS SHOULD BE EMPTIED AND RETURNED TO THE SUPPLIER.

===== MSDS Transport Information =====

Transport Information:NOT DANGEROUS FOR CONVEYANCE UNDER UN, IMO, ADR/RID AND IATA/ICAO CODES.

===== Regulatory Information =====

SARA Title III Information:NOT PROVIDED

Federal Regulatory Information:TSCA (USA): ALL COMPONENTS LISTED.

State Regulatory Information:NOT PROVIDED

===== Other Information =====

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