MATERIAL HEALTH & SAFETY DATA SHEET

NUMBER 9 ISSUE 3 DATE: 04.07.12

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME	DMS 744/745 ANTIOXIDANT PAINTS
CHEMICAL NAME	
COMPANY ADDRESS	MEGGITT AIRCRAFT BRAKING SYSTEMS
	HOLBROOK LANE
	COVENTRY
	CV6 4AA
TELEPHONE NUMBER	024 7666 6655
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E MAIL	Toby.Hutton@meggitt.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

The product is an antioxidant paint comprising the following components:

Boron powder CAS - 744-42-8

Proprietary inorganic phosphate containing:-

Acetic acid CAS 64-19-17 Ammonium nitrate CAS 6484-52-2 Water CAS 7732-18-5

3. HAZARDS IDENTIFICATION

MAIN HAZARDS	Poison – may be fatal if swallowed
HEALTH EFFECTS – EYES	May cause severe burns
HEALTH EFFECTS - SKIN	May cause severe burns
HEALTH EFFECTS - INGESTION	Poison – may be fatal if swallowed
HEALTH EFFECTS - INHALATION	If inhaled will cause difficulty in breathing

4. FIRST AID MEASURES

MOVE THE EXPOSED PERSON TO AN AREA WHERE FURTHER EXPOSURE WILL NOT OCCUR. IN CASES WHERE THE EXPOSURE ROUTE IS INHALATION MOVE THE PERSON TO FRESH AIR AT ONCE.

SKIN CONTACT	May cause severe burns. Remove contaminated clothing. Wash affected area with soap and water. Neutralise exposed skin with a dilute solution of sodium carbonate. Seek medical attention if irritation persists. Wash contaminated clothing before reusing.
EYE CONTACT	May cause severe burns. Check for and remove any contact lenses. Immediately flush eyes thoroughly with water for at least 15 minutes. Seek prompt medical attention.
INGESTION	POISON. May be fatal if swallowed. DO NOT induce vomiting. Have conscious person drink several glasses of water or milk. Seek prompt medical attention
INHALATION	If inhaled, remove individual from source of exposure to area of fresh air. If breathing is difficult, give oxygen. Seek PROMPT medical attention.
IN ALL CASES WH IMMEDIATELY	ERE SYMPTOMS ARE SEVERE, SEEK MEDICAL ATTENTION

5 FIRE FIGHTING MEASURES

Product is non-flammable, references to flash point, ignition, temperature and flammable limits in air are NOT applicable

6. ACCIDENTAL RELEASE MEASURES

Dilute with water and mop up or absorb with inert dry material and place in appropriate waste container for disposal. If necessary, neutralize the residue with a dilute solution of sodium carbonate. Wear proper protective equipment as specified in the Special Protection Information Section. Insure proper ventilation is available.

7. HANDLING & STORAGE

Handling & Storage	Store at room temperature.
	Store upright in original container.
	Keep container closed tightly when not in use.
	Keep away from sources of ignition.
	Keep away from incompatibles such as reducing agents, combustible materials, organic materials, metals, alkalis Do Not freeze
	May corrode metallic surfaces.
	Corrosive materials should be stored in a separate storage cabinet or room.
	Avoid breathing vapours.
	Avoid contact with skin and eyes.
	Do not ingest.
	If ingested seek medical advice immediately and show container or the label.
	Wear suitable protective clothing, may cause severe
	burns.
DOT Shipping Name	Corrosive Liquids n.o.s. (Contains Acetic Acid)
Dot Hazard Class	8
Dot Label(s)	Corrosive
UN/NA Numbers(s)	UN1760
Packing Group	III

8. EXPOSURE CONTROL & PERSONAL PROTECTION

COMPONENT	CAS	% BY WT.	EXPOSURE LIMITS
Proprietary inorganic	NA	9-14	OSHA PEL & ACGIH TLV:
phosphate			TGWA 1 mg/m3, STEL 3 mg/m3.
			(Mist if formed).
Acetic Acid	64-19-7	20-25	OSHA PEL: TWA 10 ppm,
			ACGIH TLV: TWA 10ppm,
			STEL 15 ppm
Ammonium nitrate	6484-52-2	10-15	NE
Water	7732-18-5	50-60	NA



Engineering Controls

Use local exhaust ventilation to control emissions near the source and keep airborne concentrations of vapours below their respective threshold limit values. Provide mechanical ventilation of confined spaces. Have showers and eye wash stations accessible.

Personal Protection

Eye Protection Use suitable safety glasses or goggles to EN122

standard

Skin Protection Wear protective clothing such as a lab coat or full

protective suit to prevent contamination of

clothing and skin. Wear chemical protective gloves

of neoprene or nitrile. Wash after use. Contaminated clothing and shoes should be removed as soon as practical and thoroughly

cleaned before reuse.

Respiratory Protection If concentrations of vapours may exceed threshold

limit values, use NIOSH approved respiratory protection equipped with filters for acid vapours. If mist is generated, NIOSH approved respiratory

protection is strongly recommended.

Personal Protection in Case of a Large Spill

Eye Protection Use full face respirator.

Skin Protection Wear protective clothing such as a full protective

suit to prevent contamination of clothing and skin. Wear chemical protective gloves of neoprene or nitrile. Wear boots. Wash when finished. Contaminated clothing and shoes should be removed as soon as practical and thoroughly

cleaned before reuse.

Respiratory Protection Use NIOSH approved respiratory protection

equipped with filters for acid vapours, selfcontained breathing apparatus (SCAB) or other

supplied air respirator.

Proprietary inorganic phosphate OSHA PEL & ACGIH TLV: TWA 1 mg/m3, STEL 3 mg/m3. (Mist

if formed)

Acetic acid OSHA PEL: TWA 10 ppm,

ACGIH TLV: TWA 10 ppm. STEL 15 ppm.

9. PHYSICAL & CHEMICAL PROPERTIES

Physical Form	Liquid/Suspension	Colour	Brown
Odour	Acetic Acid	Density g/cc	1.1
Boiling Point (°F)	-100°C	Freezing Point (°F)	<0°C
Vapour Pressure @ 77°F	-6 mm Hg	Vapour Density	ND
Solubility in Water	Soluble	Solubility in Organic Solvent	ND
Reaction with Water	None	PH	0.8 - 1.6
% Volatile by Volume	85-95%	Other Comments	Reacts with strong acids or bases

10. STABILITY & REACTIVITY

The product is stable under normal conditions. Hazardous polymerisation will not occur.		
Incompatibility (Materials to Avoid)	Avoid contact with materials sensitive to acidic solutions. Reactive or incompatible with organic materials, alkalis, metals, reducing agents and combustible materials.	
Corrosion	Corrosive in the presence of magnesium, steel, aluminium, zinc and copper. Slightly corrosive in the presence of stainless steel. Non corrosive in the presence of glass.	

11. TOXICOLOGICAL INFORMATION

Routes of entry Dermal contact, eye contact, inhalation and ingestion.

Boron is classified as harmful under the above regulations, having an LD50 (oral, rat) of 650mg/kg.

Toxicity to Animals

Proprietary inorganic

phosphate

Acute oral toxicity (LD50): 1,530 mg/kg (Rat)

Acute dermal toxicity (LD₅₀): 2,740 mg/kg (Rabbit)

Acetic acid: Acute oral toxicity (LD₅₀): 3,310 mg/kg (Rat)

Acute dermal toxicity (LD50): 1.06 g/kg (Rabbit)

Acute toxicity of the vapour (LC₅₀): 5,620 ppm 1 hour

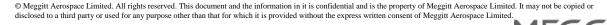
(Mouse)

Chronic Effects on Humans

Toxic to lungs and mucous membranes

Other Toxic Effects on Humans

Poison. Maybe fatal if swallowed. Very hazardous in case of eye contact (irritant). Hazardous in case of skin contact (irritant, permeator) or inhalation (irritant).





Carcinogens:

None known. Not a known or anticipated carcinogen by NTP and IARC.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Acetic acid is expected to be slightly toxic to aquatic life. The $LC_{50}/96$ -hour values for fish are between 10 and 100 mg/l.

Environmental Fate

When released into the air, acetic acid may be moderately degraded by reaction with photochemically produced hyroxyl radicals and is expected to have a half-life between 10 and 30 days. When released into water, acetic acid is expected to readily biodegrade and is expected to have a half-life between 1 and 10 days. When released into the soil, acetic acid is expected to readily biodegrade and is not expected to significantly bioaccumulate. The proprietary inorganic phosphate may leach into groundwater. Its acidity may be readily reduced by natural water hardness minerals. The phosphate however, may persist indefinitely.

13. DISPOSAL CONSIDERATIONS

Unused material for disposal should be handled as hazardous waste. Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT Shipping Name Corrosive Liquids n.o.s. DOT hazard Class 8

(Contains Acetic Acid)

DOT Label(s) Corrosive UN Number UN1760
Packing Group III Placards Corrosive
IATA Corrosive Liquids n.o.s. (Contains Acetic Acid) 8, UN1760, III

15. REGULATORY INFORMATION

Federal & State Regulations

TSCA Status All chemical substances in this material are included on or exempted from list on the TSCA Inventory of Chemical Substances.



EPA SARTA Title III Chemical Listings:

Section 302 Extremely Hazardous Substances: None

Section 304 CERCLA Hazardous Substances:

 Component
 CAS#
 Wt.%

 Acetic Acid
 64-19-7
 20-25

Section 312 Hazard Class Acute Yes

Chronic: Yes
Fire: No
Pressure: No
Reactive No

Section 313 Toxic Chemical Notification and Release Reporting: None

OSHA: Hazardous by definition of Hazard Communication Standard

(29 CFR 1910.1200)

Supplemental State Compliance Information

California

Safe Drinking Water and Toxic enforcement Act of 1986 (Proposition 65) warnings:

16. OTHER INFORMATION

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is thereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists

CAS = Chemical Abstracts Service

CERCLA = Comprehensive Environmental Response, Compensation and Liability Act

EPA = Environmental Protection Agency

HMIS = Hazardous Material Information System

IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

NA = not applicable

NO = not determined

NE = none established

NFPA = National Fire Protection Association

NIOSH = National Institute for Occupational Safety and Health

NTP = National Toxicology Program

OSHA = Occupational Safety and Health Administration

PEL = permissible exposure limit

ppm = parts per million

SARA = Superfund Amendments and Reauthorization Act

STEL = short term exposure limit

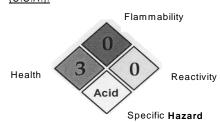
TL V = threshold limit value

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TSCA = Toxic Substances Control Act TWA = time weighted average

National Fire Protection Association (U.S.A.):



Health Hazard

Fire Hazard

Reactivity

Personal Protection

Protective Equipment:



Safety Glasses (EN122)

Coat

Gloves