

# DOUBLE CLASS PYTHROX-PROFESSIONAL AEROSOL SPRAY

ChemWatch Material Safety Data Sheet  
Issue Date: Fri 11-Mar-2005

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## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME

DOUBLE CLASS PYTHROX-PROFESSIONAL AEROSOL SPRAY

### CAS RN

NONE

### STATEMENT OF HAZARDOUS NATURE

**CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO DIRECTIVE  
1999/45/EC AND ITS AMENDMENTS.**

### SUPPLIER

Company: Double Class (M) Sdn Bhd  
Address:  
No.14, Jalan 4  
Pandan Inidah  
Kuala Lumpur, 55100  
MYS  
Telephone: +60 3 4280 9898

### PRODUCT USE

Application is by spray atomisation from a hand held aerosol pack Insecticide spray.

### SYNONYMS

Timed Dispenser Aerosol

## Section 2 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	INT HAZ	%
alkanes, C11-15-iso- EC NO: 292-460-6 R CODES: R65	90622-58-5	Xn	10-30
pyrethrum EC NO: 232-319-8 R CODES: R20/21/22, R52	8003-34-7	Xn,N	0.3-2
piperonyl butoxide EC NO: 200-076-7 R CODES: R24, R50	51-03-6	T,N	0.5-3
fragrances			0.01
hydrocarbon propellant EC NO: 270-704-2 R CODES: R12, R45, R46R12, R45, R46	68476-85-7.	None	30-60

## Section 3 - HAZARDS IDENTIFICATION

### POTENTIAL HEALTH EFFECTS

#### ACUTE HEALTH EFFECTS

#### SWALLOWED

Although ingestion is not thought to produce harmful effects (as classified under EC Directives), the material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce

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## Section 3 - HAZARDS IDENTIFICATION

nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

### EYE

Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

### SKIN

Skin contact with the material may be harmful; systemic effects may result following absorption.

The material is not thought to be a skin irritant (i.e. is unlikely to produce irritant dermatitis as described in EC Directives using animal models).

Temporary discomfort, however, may result from prolonged dermal exposures. Good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

### INHALED

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models).

Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

### CHRONIC HEALTH EFFECTS

Principal route of occupational exposure to the gas is by inhalation. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment. Limited evidence shows that inhalation of the material is capable of inducing a sensitisation reaction in a significant number of individuals at a greater frequency than would be expected from the response of a normal population. Pulmonary sensitisation, resulting in hyperactive airway dysfunction and pulmonary allergy may be accompanied by fatigue, malaise and aching. Significant symptoms of exposure may persist for extended periods, even after exposure ceases. Symptoms can be activated by a variety of nonspecific environmental stimuli such as automobile exhaust, perfumes and passive smoking.

. There exists limited evidence that shows that skin contact with the material is capable either of inducing a sensitisation reaction in a significant number of individuals, and/or of producing positive response in experimental animals. There is some evidence to provide a presumption that human exposure to the material may result in impaired fertility on the basis of: some evidence in animal studies of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects but which is not a secondary non-specific consequence of other toxic effects. Chronic poisoning by natural pyrethrins may result in convulsion, tetanic paralysis, rapid and uneven heart beat, liver and kidney damage, or death. The natural pyrethrins may produce hypersensitivity, especially following previous sensitising exposure. In general, repeated exposures over 2 or 3 years are required to elicit a response and involve exposure to pyrethrum rather than its individual components (including pyrethrins). The sesquiterpene lactone (pyrethrosin) and the pyrethrum glycoproteins account for the immediate and delayed hypersensitivity seen in guinea pigs following a single injection of ground chrysanthemum in Freud's adjuvant. Mild erythematic vesicular dermatitis (with papules), pruritus, localized oedema (particularly of the face, lips and eyelids), rhinitis, tachycardia, pallor and sweating are the most common syndromes. An initial skin sensitisation can progress to marked dermal oedema and skin cracking. Pyrethrum dermatitis appears to increase in hot weather or under conditions where heavy perspiration is produced. The active ingredients of

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## Section 3 - HAZARDS IDENTIFICATION

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pyrethrum (except pyrethrin II) are inactive in patch tests. Those patients allergic to ragweed pollen are particularly sensitive to pyrethrin. Rats fed on a diet of pyrethrins for 5000 ppm for 2 years showed some signs of tissue damage including liver lesions, bile duct proliferation and focal necrosis of the liver cells. A no-effect level of 1000 ppm found in animal experiments correspond to a daily dose of 3600 mg/man.

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## Section 4 - FIRST AID MEASURES

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### SWALLOWED

Not considered a normal route of entry.

If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

- If swallowed do NOT induce vomiting.>
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.>
- Observe the patient carefully.>
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.>
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.>
- Seek medical advice.>

Avoid giving milk or oils.

Avoid giving alcohol.

### EYE

If aerosols come in contact with the eyes:

- Immediately hold the eyelids apart and flush the eye with fresh running water.>
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.>
- If pain persists or recurs seek medical attention.>
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.>

### SKIN

If solids or aerosol mists are deposited upon the skin:

- Flush skin and hair with running water (and soap if available).>
- Remove any adhering solids with industrial skin cleansing cream.>
- DO NOT use solvents.>
- Seek medical attention in the event of irritation.>

### INHALED

If aerosols, fumes or combustion products are inhaled:

- Remove to fresh air.>
- Lay patient down. Keep warm and rested.>
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.>
- If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.>
- Transport to hospital, or doctor.>

### NOTES TO PHYSICIAN

Treat symptomatically.

For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

- Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.>

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- Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO<sub>2</sub> 50 mm Hg) should be intubated>
- Arrhythmias complicate some hydrocarbon ingestion an;/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance>
- A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax>
- Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice>
- Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients. [Ellenhorn and Barceloux: Medical Toxicology>.

For chronic or short term repeated exposures to pyrethrum and synthetic pyrethroids: Mammalian toxicity of pyrethrum and synthetic pyrethroids is low, in part because of poor bioavailability and a large first pass extraction by the liver. The most common adverse reaction results from the potent sensitising effects of pyrethrins. Clinical manifestations of exposure include contact dermatitis (erythema, vesiculation, bullae); anaphylactoid reactions (pallor, tachycardia, diaphoresis) and asthma. [Ellenhorn Barceloux] In cases of skin contact, it has been reported that topical application of Vitamin E Acetate (alpha-tocopherol acetate) has been found to have high therapeutic value, eliminating almost all skin pain associated with exposure to synthetic pyrethroids. [Incitec]

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## Section 5 - FIRE FIGHTING MEASURES

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### EXTINGUISHING MEDIA

SMALL FIRE:

- Water spray, dry chemical or CO

LARGE FIRE:

- Water spray or fog>

### FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard>
- May be violently or explosively reactive>
- Wear breathing apparatus plus protective gloves>
- Prevent, by any means available, spillage from entering drains or water course>
- If safe, switch off electrical equipment until vapour fire hazard removed>
- Use water delivered as a fine spray to control fire and cool adjacent area>
- DO NOT approach containers suspected to be hot>
- Cool fire exposed containers with water spray from a protected location>
- If safe to do so, remove containers from path of fire>
- Equipment should be thoroughly decontaminated after use>

### FIRE/EXPLOSION HAZARD

- Liquid and vapour are flammable>
- Moderate fire hazard when exposed to heat or flame>
- Vapour forms an explosive mixture with air>
- Moderate explosion hazard when exposed to heat or flame>
- Vapour may travel a considerable distance to source of ignition>
- Heating may cause expansion or decomposition leading to violent rupture of

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containers>

- Aerosol cans may explode on exposure to naked flame>
  - Rupturing containers may rocket and scatter burning materials>
  - Hazards may not be restricted to pressure effects>
  - May emit acrid, poisonous or corrosive fumes>
  - On combustion, may emit toxic fumes of carbon monoxide (CO)>.
- Combustion products include , carbon dioxide (CO<sub>2</sub>) , other pyrolysis products typical of burning organic material

## FIRE INCOMPATIBILITY

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

## Section 6 - ACCIDENTAL RELEASE MEASURES

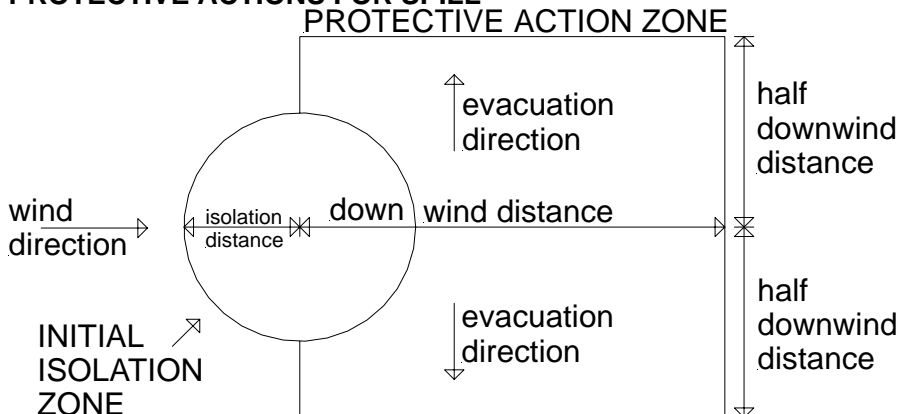
### MINOR SPILLS

- Clean up all spills immediately>
- Avoid breathing vapours and contact with skin and eyes>
- Wear protective clothing, impervious gloves and safety glasses>
- Shut off all possible sources of ignition and increase ventilation>
- Wipe up>
- If safe, damaged cans should be placed in a container outdoors, away from all ignition sources, until pressure has dissipated>
- Undamaged cans should be gathered and stowed safely>

### MAJOR SPILLS

- Clear area of personnel and move upwind>
- Alert Fire Brigade and tell them location and nature of hazard>
- May be violently or explosively reactive>
- Wear breathing apparatus plus protective gloves>
- Prevent, by any means available, spillage from entering drains or water course>
- No smoking, naked lights or ignition sources>
- Increase ventilation>
- Stop leak if safe to do so>
- Water spray or fog may be used to disperse/; absorb vapour>
- Absorb or cover spill with sand, earth, inert materials or vermiculite>
- If safe, damaged cans should be placed in a container outdoors, away from ignition sources, until pressure has dissipated>
- Undamaged cans should be gathered and stowed safely>
- Collect residues and seal in labelled drums for disposal>

### PROTECTIVE ACTIONS FOR SPILL



From IERG (Canada/Australia)

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## Section 6 - ACCIDENTAL RELEASE MEASURES

Isolation Distance -  
Downwind Protection Distance 8 metres

### FOOTNOTES

- 1 PROTECTIVE ACTION ZONE is defined as the area in which people are at risk of harmful exposure. This zone assumes that random changes in wind direction confines the vapour plume to an area within 30 degrees on either side of the predominant wind direction, resulting in a crosswind protective action distance equal to the downwind protective action distance.
- 2 PROTECTIVE ACTIONS should be initiated to the extent possible, beginning with those closest to the spill and working away from the site in the downwind direction. Within the protective action zone a level of vapour concentration may exist resulting in nearly all unprotected persons becoming incapacitated and unable to take protective action and/or incurring serious or irreversible health effects.
- 3 INITIAL ISOLATION ZONE is determined as an area, including upwind of the incident, within which a high probability of localised wind reversal may expose nearly all persons without appropriate protection to life-threatening concentrations of the material.
- 4 SMALL SPILLS involve a leaking package of 200 litres (55 US gallons) or less, such as a drum (jerrican or box with inner containers). Larger packages leaking less than 200 litres and compressed gas leaking from a small cylinder are also considered "small spills".  
LARGE SPILLS involve many small leaking packages or a leaking package of greater than 200 litres, such as a cargo tank, portable tank or a "one-tonne" compressed gas cylinder.
- 5 Guide 126 is taken from the US DOT emergency response guide book.
- 6 IERG information is derived from CANUTEC - Transport Canada.

## Section 7 - HANDLING AND STORAGE

### PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation>
  - Wear protective clothing when risk of exposure occurs>
  - Use in a well-ventilated area>
  - Prevent concentration in hollows and sumps>
  - DO NOT>enter confined spaces until atmosphere has been checked>
  - Avoid smoking, naked lights or ignition sources>
  - Avoid contact with incompatible materials>
  - When handling> DO NOT eat, drink or smoke>
  - DO NOT incinerate or puncture aerosol cans>
  - DO NOT spray directly on humans, exposed food or food utensils>
  - Avoid physical damage to containers>
  - Always wash hands with soap and water after handling>
  - Work clothes should be laundered separately>
  - Use good occupational work practice>
  - Observe manufacturer's storing and handling recommendations>
  - Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained>.
- DO NOT allow clothing wet with material to stay in contact with skin

### SUITABLE CONTAINER

- Aerosol dispenser.>
- Check that containers are clearly labelled>

### STORAGE INCOMPATIBILITY

Avoid reaction with oxidising agents

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Section 7 - HANDLING AND STORAGE

## STORAGE REQUIREMENTS

- Store in an upright position.  
Outside or detached storage is preferred.  
Store below 38 deg. C.  
Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can.
- Store in original containers in approved flammable liquid storage area>
  - DO NOT store in pits, depressions, basements or areas where vapours may be>trapped>
  - No smoking, naked lights, heat or ignition sources>
  - Keep containers securely sealed Contents under pressure>
  - Store away from incompatible materials>
  - Store in a cool, dry, well ventilated area>
  - Avoid storage at temperatures higher than 40 deg C>
  - Store in an upright position>
  - Protect containers against physical damage>
  - Check regularly for spills and leaks>
  - Observe manufacturer's storing and handling recommendations>

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>	Peak ppm	Peak mg/m <sup>3</sup>
Spanish Occupational Exposure Limits for Chemical Agents	Pyrethrins		5				
Belgian Occupational Exposure Limits	Pyrèthre		5				
Irish Occupational Exposure Limits	Pyrethrins (ISO)		5		10		
German Occupational Exposure Values (MAK)	Pyrethrum		5l			ll(2)	
Finnish Occupational Exposure Levels - Concentrations known to be Harmful	Pyrethrum		5		10		
UK Approved Occupational Exposure Standards (OES)	Pyrethrins (ISO)		5		10		
French Threshold Limit Values for Occupational Exposure (VLE, VME)	Pyrèthre		5				
Polish Workplace Maximum Allowable Concentration	Pyretryny		5		-		-
Swiss Occupational Exposure Limits	Pyrethrum		5 e				
Icelandic Occupational Exposure Limits	Pyretrum	-	5				
Norwegian Occupational Exposure Limits			5				
Portuguese Occupational Exposure Limits	GPL (Gás de petróleo liquefeito)	1000					
Irish Occupational Exposure Limits	Liquefied petroleum gas	1000	1800	1250	2250		

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Belgian Occupational Exposure Limits	(LPG) Pétrole (gaz liquéfié)	1000	1826		
UK Approved Occupational Exposure Standards (OES)	Liquefied petroleum gas (LPG)	1000	1750	1250	2180

No data available for alkanes, C11-15-iso- as (CAS: 90622-58-5) / (CAS: 51-03-6) / (CAS: 68476-86-8)

Not available. Refer to individual constituents.

### EXPOSURE STANDARDS FOR MIXTURE

"Worst Case" computer-aided prediction of vapour components/concentrations:

Composite Exposure Standard for Mixture (TWA) (mg/m<sup>3</sup>): 1862.069 mg/m<sup>3</sup>

If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed.

Component Breathing Zone ppm Breathing Zone mg/m<sup>3</sup> Mixture Conc: (%)

Component	Breathing zone (ppm)	Breathing Zone (mg/m <sup>3</sup> )	Mixture Conc (%)
hydrocarbon propellant	689.66	1241.3793	60.0
alkanes, C11-15-iso-	155.17	620.6897	30.0

Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone.

If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed.

At the "Composite Exposure Standard for Mixture" (TWA) (mg/m<sup>3</sup>): 90 mg/m<sup>3</sup>

Component	Breathing Zone (mg/m <sup>3</sup> )	Concentration (%)
pyrethrum	41.3793	2.0

### REPRODUCTIVE HEALTH GUIDELINES

Established occupational exposure limits frequently do not take into consideration reproductive end points that are clearly below the thresholds for other toxic effects. Occupational reproductive guidelines (ORGs) have been suggested as an additional standard. These have been established after a literature search for the reproductive no-observed-adverse effect-level (NOAEL) and the lowest-observed-adverse-effect-level (LOAEL). In addition the US EPA's procedures for risk assessment for hazard identification and dose-response assessment as applied by NIOSH were used in the creation of such limits. Uncertainty factors (UFs) have also been incorporated.

Ingredient	ORG	UF	Endpoint	CR	TLV Adeq
piperonyl butoxide	0.90 mg/m <sup>3</sup>	1000	R	NA	-

These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time-weighted average unless specified otherwise.

CR = Cancer Risk/10000; UF = Uncertainty factor:

TLV believed to be adequate to protect reproductive health:

LOD: Limit of detection

Toxic endpoints have also been identified as:

D = Developmental; R = Reproductive; TC = Transplacental carcinogen

Jankovic J., Drake F.: A Screening Method for Occupational Reproductive

American Industrial Hygiene Association Journal 57: 641-649 (1996)

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### INGREDIENT DATA

#### ALKANES, C11-15-ISO-:

REL TWA: 300 ppm [EXXON]  
for petroleum distillates:  
CEL TWA: 500 ppm, 2000 mg/m<sup>3</sup> (compare OSHA TWA)

#### PYRETHRUM:

TLV TWA: 5 mg/m<sup>3</sup> A4 [ACGIH]  
PEL TWA: 5 mg/m<sup>3</sup> [OSHA Z1]  
TLV TWA: 5 mg/m<sup>3</sup> A4

NOTE: This substance has been classified by the ACGIH as A4 NOT classifiable as causing Cancer in humans

ES TWA: 5 mg/m<sup>3</sup> Sensitiser  
OES TWA: 5 mg/m<sup>3</sup>; STEL: 10 mg/m<sup>3</sup>  
IDLH Level: 5000 mg/m<sup>3</sup>

Pyrethrum and/or its active components, pyrethrins cause dermatitis and sensitisation. Ingestion of massive doses can induce convulsions, vomiting and bradycardia. Animals exhibit liver damage and death through respiratory failure. The recommended TLV-TWA is equivalent to an occupational dose of 0.7 mg/kg/day and is thought to minimise the potential for systemic effects. The TLV may NOT prevent the development of hypersensitisation, particularly among those with pre-existing allergies to pollen and related agents.

#### PIPERONYL BUTOXIDE:

No exposure limits set by NOHSC or ACGIH

#### HYDROCARBON PROPELLANT:

PEL TWA: 1000 ppm, 1800 mg/m<sup>3</sup> [OSHA Z1]  
hydrocarbon propellant, as liquified petroleum gas  
TLV TWA: 1000 ppm, 1800 mg/m<sup>3</sup>  
ES TWA: 1000 ppm, 1800 mg/m<sup>3</sup>  
OES TWA: 1000 ppm, 1750 mg/m<sup>3</sup>; STEL: 1250 ppm, 2180 mg/m<sup>3</sup>

### PERSONAL PROTECTION

#### EYE

No special equipment for minor exposure i.e. when handling small quantities.

OTHERWISE: For potentially moderate or heavy exposures:

- Safety glasses with side shields>
- NOTE: Contact lenses pose a special hazard; soft lenses may absorb irritants and ALL lenses concentrate them>

#### HANDS/FEET

No special equipment needed when handling small quantities.

OTHERWISE:

For potentially moderate exposures:

Wear general protective gloves, eg. light weight rubber gloves.

For potentially heavy exposures:

Wear chemical protective gloves, eg. PVC. and safety footwear.

NOTE: The material may produce skin sensitisation in predisposed individuals.

Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.

#### OTHER

No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls>
- Skin cleansing cream>

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- Eyewash unit>
- Do not spray on hot surfaces>

### RESPIRATOR

Respiratory protection may be required when ANY "Worst Case" vapour-phase concentration is exceeded (see Computer Prediction in "Exposure Standards").

Protection Factor	Half-Face Respirator	Full-Face Respirator
5 x ES	Air-line*	A-2
	-	A-PAPR-2
10 x ES	-	A-3
10+ x ES	-	Air-line**

\* - Continuous Flow; \*\* - Continuous-flow or positive pressure demand  
^ - Full-face

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

### ENGINEERING CONTROLS

General exhaust is adequate under normal conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection.

Provide adequate ventilation in warehouse or closed storage areas.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Speed:
aerosols, (released at low velocity into zone of active generation)	0.5-1 m/s
direct spray, spray painting in shallow booths, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within

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the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

### PHYSICAL PROPERTIES

Liquid.  
Gas.  
Does not mix with water.

Molecular Weight: Not Applicable  
Melting Range (°C): Not Applicable  
Solubility in water (g/L): Immiscible  
pH (1% solution): Not Applicable  
Volatile Component (%vol): Not Available  
Relative Vapour Density (air=1): Not Available  
Lower Explosive Limit (%): Not Available  
Autoignition Temp (°C): Not Available  
State: Liquid

Boiling Range (°C): Not Available  
Specific Gravity (water=1): Not Available  
pH (as supplied): Not Applicable  
Vapour Pressure (kPa): Not Available  
Evaporation Rate: Not Available  
Flash Point (°C): -81(propellant)  
Upper Explosive Limit (%): Not Available  
Decomposition Temp (°C): Not Available

### APPEARANCE

Supplied as an aerosol pack. Contents under PRESSURE. Contains highly flammable hydrocarbon propellant.  
Clear flammable liquid; does not mix with water.

## Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

### CONDITIONS CONTRIBUTING TO INSTABILITY

- Elevated temperatures>
- Presence of open flame>
- Product is considered stable>
- Hazardous polymerisation will not occur>

## Section 11 - TOXICOLOGICAL INFORMATION

### Double Class Pythrox-Professional Aerosol Spray

Not available. Refer to individual constituents.

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

ALKANES, C11-15-ISO-:

TOXICITY

IRRITATION

for C10 - C12 isoalkanes:

Oral (rat) LD50: >10000 mg/kg

Nil reported

Inhalation (rat) LC50: >5010 mg/m<sup>3</sup>/4h

Dermal (rabbit) LD50: >3200 mg/kg

PYRETHRUM:

TOXICITY

IRRITATION

Oral (human) LDLo: 1000 mg/kg

Nil reported

Dermal (rabbit) LD50: 300 mg/kg

ADI: 0.04 mg/kg/day

continued...

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## Section 11 - TOXICOLOGICAL INFORMATION

### PIPERONYL BUTOXIDE:

#### TOXICITY

Oral (rat) LD50: 6150 mg/kg  
Dermal (rabbit) LD50: 200 mg/kg  
Dermal (rabbit) LD50: >1880 mg/kg [Handbook of Toxicology]  
Dermal (rat) LD50: >7950 mg/kg  
ADI: 0.03 mg/kg

#### IRRITATION

Nil reported

The substance is classified by IARC as Group 3:  
NOT classifiable as to its carcinogenicity to humans.  
Evidence of carcinogenicity may be inadequate or limited in animal testing.

### HYDROCARBON PROPELLANT:

No significant acute toxicological data identified in literature search.

## Section 12 - ECOLOGICAL INFORMATION

### Drinking Water Standards:

hydrocarbon total: 10 ug/l (UK max.).

DO NOT discharge into sewer or waterways.

Toxic to aquatic organisms.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites

## Section 13 - DISPOSAL CONSIDERATIONS

- Consult State Land Waste Management Authority for disposal>
- Discharge contents of damaged aerosol cans at an approved site>
- Allow small quantities to evaporate>
- DO NOT incinerate or puncture aerosol cans>
- Bury residues and emptied aerosol cans at an approved site>

## Section 14 - TRANSPORTATION INFORMATION



Shipping Name: AEROSOLS

Hazard Class: 2.1

UN/NA Number: 1950

ADR Number: None

Packing Group: None

Labels Required: flammable gas

Additional Shipping Information:

International Transport Regulations:

IMO: 2.1

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## Section 15 - REGULATORY INFORMATION

### RISK

Extremely flammable.  
Harmful in contact with skin.  
Risk of explosion if heated under confinement.  
Toxic to aquatic organisms.

Preparation is WGK 1

Name	WGK	Score
alkanes, C11-15-iso-	1	0
pyrethrum	3	Source: VwVwS
piperonyl butoxide	1	3
hydrocarbon propellant	1	0

### SAFETY

Avoid exposure - obtain special instructions before use. To clean the floor and all objects contaminated by this material, use water and detergent. Keep away from food, drink and animal feeding stuffs. Take off immediately all contaminated clothing. In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre. If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label). If you feel unwell contact Doctor or Poisons Information Centre. (Show the label if possible).

### REGULATIONS

alkanes, C11-15-iso- (CAS: 90622-58-5) is found on the following regulatory lists:

European Inventory of Existing Chemical Substances (EINECS)

European Union (EU) Restrictions on the Marketing and Use of Certain Dangerous Substances and Prepa

pyrethrum (CAS: 8003-34-7) is found on the following regulatory lists:

European Inventory of Existing Chemical Substances (EINECS)

piperonyl butoxide (CAS: 51-03-6) is found on the following regulatory lists:

Danish EPA Advisory List for Classification of Dangerous Substances

European Customs Inventory of Chemical Substances

European Inventory of Existing Chemical Substances (EINECS)

European Union (EU) Restrictions on the Marketing and Use of Certain Dangerous Substances and Prepa

Swiss Federal Office of Public Health Giftliste Inventory

hydrocarbon propellant (CAS: 68476-85-7) is found on the following regulatory lists:

European Inventory of Existing Chemical Substances (EINECS)

European Union (EU) Carcinogenic Substances

European Union (EU) Control of Major Accident Hazards Involving Dangerous Substances - Seveso Cate

European Union (EU) List of Dangerous Substances (Annex I) - 29th ATP

European Union (EU) Restrictions on the Marketing and Use of Certain Dangerous Substances and Prepa

European Union (EU) Restrictions on the Marketing and Use of Certain Dangerous Substances and Prepa

hydrocarbon propellant (CAS: 68476-86-8) is found on the following regulatory lists:

European Inventory of Existing Chemical Substances (EINECS)

European Union (EU) Carcinogenic Substances

European Union (EU) Control of Major Accident Hazards Involving Dangerous Substances - Seveso Cate

European Union (EU) List of Dangerous Substances (Annex I) - 29th ATP

European Union (EU) Restrictions on the Marketing and Use of Certain Dangerous Substances and Prepa

European Union (EU) Restrictions on the Marketing and Use of Certain Dangerous Substances and Prepa

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## Section 16 - OTHER INFORMATION

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### RISK

#### Explanation of Risk Codes used in the Ingredient Table

R12	Extremely flammable.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R24	Toxic in contact with skin.
R45	May cause CANCER.
R46R12	
R46	May cause heritable genetic damage.
R50	Very toxic to aquatic organisms.
R52	Harmful to aquatic organisms.
R65	HARMFUL-May cause lung damage if swallowed.

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