

SAFETY DATA SHEET

0105

Product Name **INSECTIGAS F (PRODUCT OBSOLETE)**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier name BOC LIMITED (AUSTRALIA)
Address 10 Julius Avenue, North Ryde, NSW, 2113, AUSTRALIA
Telephone 131 262, (02) 8874 4400
Fax 132 427 (24 hours)
Emergency 1800 653 572 (24/7) (Australia only)
Web site <http://www.boc.com.au>
Synonym(s) F INSECTIGAS • FENITROTHION INSECTICIDE IN CARBON DIOXIDE • PRODUCT CODE: 189
Use(s) INSECTICIDE • PESTICIDE • SPACE SPRAY
SDS date 17 July 2014

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Risk Phrases

R20 Harmful by inhalation.

Safety Phrases

S7/9 Keep container tightly closed and in a well ventilated place.

S36 Wear suitable protective clothing.

S45 In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN Number	1968	Transport Hazard Class	2.2
Packing Group	None Allocated	Hazchem Code	2TE

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Identification	Classification	Content
ACETONE	CAS: 67-64-1 EC: 200-662-2	F;R11, Xi;R36, Xi;R66, Xn;R67	15%
FENITROTHION	CAS: 122-14-5 EC: 204-524-2	Xn;R22, N;R50/53	5%
CARBON DIOXIDE	CAS: 124-38-9 EC: 204-696-9	Not Available	80%

4. FIRST AID MEASURES

Eye Cold burns: Immediately flush with tepid water or with sterile saline solution. Hold eyelids apart and irrigate for 15 minutes. Seek medical attention.

Inhalation If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Be aware of possible explosive atmospheres. Apply artificial respiration if not breathing. Give oxygen if available. For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor.

Skin	Cold burns: Remove contaminated clothing and gently flush affected areas with warm water (30°C) for 15 minutes. Apply sterile dressing and treat as for a thermal burn. For large burns, immerse in warm water for 15 minutes. DO NOT apply any form of direct heat. Seek immediate medical attention.
Ingestion	Due to product form and application, ingestion is considered unlikely.
Advice to doctor	Ensure adequate oxygenation as atropine may precipitate ventricular fibrillation in the presence of cyanosis. Antidotes: 1. Atropine sulphate. 2.5 mg IMI and repeat every 10 minutes until signs of atropinisation occur (flushed face, dry mouth, widely dilated pupils, fast pulse (>140). Repeat atropine to maintain mild atropinisation for 24-48 hours. Interruption of therapy has caused fatal pulmonary oedema or respiratory failure. 2. Cholinesterase reactivator. 2-PAM, Pralidoxime, Protopam, 2 pyridine aldoxime, methchloride (methiodide). This should be given after full atropinisation. (2 x 20 mL ampoules) by slow IV injection. Repeat dose in 30 minutes if respiration not improved. This dose may be repeated twice within each 24 hour period. 2 PAM is of low toxicity if used at above doses but can cause symptoms similar to OP poisoning if dosage is excessive. Avoid use of morphine, aminophylline, phenothiazines or respiratory depressants.

5. FIRE FIGHTING MEASURES

Flammability	Non flammable.
Fire and explosion	Temperatures in a fire may cause cylinders to rupture. Cool cylinders or containers exposed to fire by applying water from a protected location. Remove cool cylinders from the path of the fire. Evacuate the area if unable to keep cylinders cool. Do not approach cylinders or containers suspected of being hot. Remove cool cylinders from the path of the fire. Evacuate the area if unable to keep cylinders cool. Ensure work area is thoroughly ventilated before re-entry.
Extinguishing	Use water fog to cool containers from protected area.
Hazchem code	2TE 2 Water Fog (or fine water spray if fog unavailable) T Self Contained Breathing apparatus and protective gloves. E Evacuation of people in the vicinity of the incident should be considered.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use personal protective equipment as detailed in Section 8.
Environmental precautions	Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
Methods of cleaning up	Carefully move material to a well ventilated remote area, then allow to discharge if safe to do so. Do not attempt to repair leaking valve or cylinder safety devices.
References	See Sections 8 and 13 for exposure controls and disposal.

7. STORAGE AND HANDLING

Storage	Do not store near incompatible materials. Cylinders should be stored below 45°C in a secure area, upright and restrained to prevent cylinders from falling. Cylinders should also be stored in a dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits.
Handling	Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Do not drag, drop, slide or roll cylinders. The uncontrolled release of a gas under pressure may cause physical harm. Use a suitable hand truck for cylinder movement.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Acetone	SWA (AUS)	500	1185	1000	2375
Carbon dioxide	SWA (AUS)	5000	9000	30000	54000
Carbon dioxide in coal mines	SWA (AUS)	12500	22500	30000	54000

Biological limits

Ingredient	Determinant	Sampling Time	BEI
ACETONE	Acetone in urine	End of shift	-
	Aniline released from haemoglobin in blood	End of shift	-
	p-Aminophenol in urine	End of shift	50 mg/L
FENITROTHION	Cholinesterase activity in red blood cells	Discretionary	70% of individual's baseline

Reference: ACGIH Biological Exposure Indices

Engineering controls

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

PPE

Eye / Face	Wear safety glasses.
Hands	Wear leather gloves.
Body	Wear coveralls and safety boots.
Respiratory	Where an inhalation risk exists, wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	PALE YELLOW LIQUID (FORMS A MIST ON RELEASE TO AIR)
Odour	SLIGHT ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	-78°C (Approximately)
Melting point	NOT AVAILABLE
Evaporation rate	NOT APPLICABLE
pH	NOT APPLICABLE
Vapour density	NOT AVAILABLE
Specific gravity	NOT APPLICABLE
Solubility (water)	0.759 cm ³ /cm ³ (Carbon dioxide)
Vapour pressure	6300 kPa @ 25°C (Approximately)
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE
Critical temperature	31°C (Approximately)
Density	1.53 (Air = 1)
% Volatiles	100 %
Critical pressure	7380 kPa (Approximately)

10. STABILITY AND REACTIVITY

Chemical stability	Stable under recommended conditions of storage.
Material to avoid	Dust of aluminium, chrome, manganese may ignite then explode when heated in carbon dioxide. Incompatible with acrylaldehyde, aziridine, metal acetylides, sodium peroxide.
Hazardous Decomposition	May evolve toxic gases if heated to decomposition.

Products

Hazardous Reactions Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary

Harmful - asphyxiant. Fenitrothion is absorbed through the skin, eyes, lungs and stomach. A relatively short exposure may result in poisoning by blocking cholinesterase in the blood and muscles. Symptoms of poisoning may be of sudden onset and should not be ignored. Children are more susceptible than adults. Fenitrothion may induce vomiting, nausea, diarrhoea, slow pulse, headache, giddiness, tearing, blurred vision, sweating, muscular weakness, staggering, abdominal cramping, difficulty breathing and loss of consciousness. Escaping liquid from the cylinder can form a dry ice powder like snow and leave a liquid Fenitrothion residue. Carbon dioxide is the body's regulator of the breathing function. It is normally present in the air at a concentration of 340 ppm by volume. An increase above this level will cause accelerated breathing and heart rate. Adverse health affects to long term exposure to carbon dioxide have not been reported. However in environments such as submarines where exposure to levels of 0.5 - 1.0% may occur, specialist medical opinion should be sought on the effects of long term exposure.

Eye Irritant. Contact with spray mist may result in irritation. Contact with dry ice powder could result in frostbite or cold burns.

Inhalation Harmful - asphyxiant. A toxic and asphyxiant mixture if directly inhaled. Inhalation of spray mist may result in asthmatic reactions.

Skin Irritant - toxic. Contact may result in dermatitis in sensitised individuals. Skin contact with dry ice powder could result in frostbite or cold burns.

Ingestion Ingestion is considered unlikely due to product form.

Toxicity data

ACETONE (67-64-1)	
LC50 (inhalation)	44000 mg/m ³ /4 hours (mouse)
LCLo (inhalation)	1600 ppm/4 hours (rat)
LD50 (ingestion)	3000 mg/kg (mouse)
LD50 (intraperitoneal)	1297 mg/kg (mouse)
LD50 (intravenous)	5500 mg/kg (rat)
LD50 (skin)	> 9400 uL/kg (guinea pig)
LDLo (ingestion)	8000 mg/kg (dog)
LDLo (intraperitoneal)	500 mg/kg (rat)
LDLo (intravenous)	1576 mg/kg (rabbit)
LDLo (skin)	20 mL/kg (rabbit)
LDLo (subcutaneous)	5000 mg/kg (guinea pig/dog)
TCLo (inhalation)	500 ppm (human)
TDLo (ingestion)	2857 mg/kg (man)
FENITROTHION (122-14-5)	
LC50 (inhalation)	378 mg/m ³ /4hrs (rat)
LD50 (ingestion)	229 mg/kg
LD50 (intraperitoneal)	280 mg/kg (mouse)
LD50 (intravenous)	33 mg/kg (rat)
LD50 (skin)	1002 mg/kg (rat)
LD50 (subcutaneous)	1000 mg/kg (mouse)
TDLo (ingestion)	800 mg/kg (woman)
CARBON DIOXIDE (124-38-9)	
LC50 (inhalation)	470000 ppm/30M (rat)
LCLo (inhalation)	9 pph/5M (human)

12. ECOLOGICAL INFORMATION

Toxicity No information provided.

Persistence and degradability No information provided.

Bioaccumulative potential No information provided.

Mobility in soil No information provided.

Other adverse effects When discharged to the atmosphere, carbon dioxide may contribute to the greenhouse effect. Organophosphates are highly toxic to birds, mammals and fish. Bioaccumulation is unlikely as these chemicals would kill the organism before it would be taken into the tissues. Even when these chemicals are taken up by fish, they seldom persist for more than a week.

13. DISPOSAL CONSIDERATIONS

Waste disposal Cylinders should be returned to the manufacturer or supplier for disposal of contents.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
UN Number	1968	1968	1968
Proper Shipping Name	INSECTICIDE GAS, N.O.S.	INSECTICIDE GAS, N.O.S.	INSECTICIDE GAS, N.O.S.
Transport Hazard Class	2.2	2.2	2.2
Packing Group	None Allocated	None Allocated	None Allocated

Environmental hazards No information provided

Special precautions for user

Hazchem code 2TE

EMS F-C, S-V

Other information Ensure cylinder is separated from driver and that outlet of relief device is not obstructed.

15. REGULATORY INFORMATION

Poison schedule Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Inventory Listing(s) **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

Additional information The storage of significant quantities of gas cylinders must comply with AS4332 The storage and handling of gases in cylinders. The manufacturer reports that this product is registered in Australia as an Agricultural Chemical for use by registered pest controllers and other authorised persons. Space spray for the control of grain insects in empty storage areas.

Application method: Cylinder positioned vertically with valve at top. Portable cylinders connected to hand held spray gun.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
PEL	Permissible Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Revision history

Revision	Description
2.0	Standard SDS Review.
1.0	Initial SDS creation

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

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End of SDS