1. PRODUCT AND COMPANY IDENTIFICATION

Product Code	ISPPEPSP
Trade Name	ISP PEPPER SPRAY
Manufacturer/Supplier	ISP Chemicals
Address	P O Box 472 Olifantsfontein 1665
Phone Number	011 316 4063
Fax Number	011 316 3199
Emergency Phone Number	N.P.Sanan : (011) 316 4063 (Cell) 082 904 0921

2. COMPOSITION/INFORMATION ON THE COMPONENTS

Description Aerosol: Protective Spray

Hazardous Components in Product for EC

Component Name	Concentration	R Phrases	Classification
Propellant: Propane/Butane	20.00% - 40.00%	R12	F+
Alcohols	50.00% - 80.00%	R11	F
Capsaicinoids	< 0.40%	R38, R43	Xi

3. HAZARD IDENTIFICATION

Main Hazards	Extremely flammable. Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Asphyxiant. In use, may form flammable/explosive vapour-air mixture. Irritating to skin. May cause sensitisation by skin contact.
Health Effects - Eyes	Product will cause conjunctival irritation. Contact can cause superficial keratitis and conjunctivitus. Liquid or cold vapour may cause frostbite and corneal damage.
Health Effects - Skin	Material will cause severe irritation. Contact may have the following effects:- severe pulmonary irritation. Liquid or cold vapour may cause frostbite.
Health Effects - Ingestion	Aspiration during swallowing or vomiting may severely damage the lungs. Swallowing may have the following effects:- severe pulmonary irritation. severe gastrointestinal irritation. irritation of mouth, throat and digestive tract.
Health Effects - Inhalation	Exposure to vapour at high concentrations may have the following effects:- severe irritation of nose, throat and respiratory tract. Acts as a simple asphyxiant; concentrations in excess of 14% may cause symptoms of oxygen deficiency, leading to loss of consciousness if exposure continues.

4. FIRST AID MEASURES

Special Instructions	Do not induce vomiting. An asphyxiant gas propellant. Obtain medical attention.
First Aid - Eyes	Immediately flood the eye with plenty of water for at least 20 minutes, holding the eye open. Apply drops of calcium gluconate to the eyes. Obtain medical attention urgently.
First Aid - Skin	Immediately wash skin thoroughly with soap and water. Remove contaminated clothing as washing proceeds. Obtain medical attention. Contaminated clothing should be washed or dry-cleaned before re-use.
First Aid - Ingestion	Wash out mouth with water. Do not induce vomiting. If any material enters the lungs, for example during swallowing or vomiting, obtain medical attention urgently. Never administer anything by mouth if a victim is losing consciousness, is unconscious or is convulsing. If there is difficulty in breathing, give oxygen. Obtain medical attention urgently.
First Aid - Inhalation	Remove from exposure. Keep warm and at rest. If there is difficulty in breathing, give oxygen. If breathing stops or shows signs of failing, give artificial respiration. If heartbeat absent, give external cardiac compression. Obtain medical attention urgently.
Advice to Physicians	Avoid aspiration. Treat symptomatically. Treat hypoxia with oxygen and ventilation as appropriate. The catalyst slurry reacts slowly with water so the use of a neutralising agent such as magnesia or sodium bicarbonate may reduce the effects of ingestion.

5. FIRE FIGHTING MEASURES

Extinguishing Media	Use foam, dry chemical or carbon dioxide. Keep containers and surroundings cool with water spray.
Special Hazards of Product	This product may give rise to hazardous fumes in a fire. Containers may explode in heat of fire.
Protective Equipment for Fire-Fighting	Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wear appropriate protective clothing. Wear respiratory protection. Eliminate all sources of ignition. Material can create slippery conditions underfoot. Beware of

6. ACCIDENTAL RELEASE MEASURES

	gas accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental Precautions	Try to prevent the material from entering drains or water courses.
Spillages	Small spillages may be flushed with large quantities of water. Large spillages should be collected for disposal. Contain and absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal. Remove leaking container to a safe place. Beware of gas accumulating to form explosive concentrations.

7. HANDLING AND STORAGE

Handling	Adequate ventilation should be provided if there is risk of vapour build-up. Avoid contact with eyes, skin and clothing. Avoid inhaling vapour.
Storage	Storage area should be: under cover. cool. dry. well ventilated. out of direct sunlight. Store away from sources of heat or ignition. Storage temperature should be kept below 50 °C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Standards	
Propellant: Propane/Butane	UK EH40: OES 600ppm (1450mg/m3) 8h TWA. UK EH40: OES 750ppm (1810mg/m3) 15min TWA. FRG: MAK 1000ppm (2350mg/m3) 8h TWA. Peak limitation category IV ACGIH: TLV 800ppm (1900mg/m3) 8h TWA.
Alcohols	UK EH40: OES 200ppm (500mg/m3) 8h TWA. UK EH40: OES 250ppm (625mg/m3) 15min TWA. Can be absorbed through skin. ACGIH: TLV 200ppm (492mg/m3) 8h TWA. ACGIH: STEL 250ppm (614mg/m3) 15min TWA.
Capsaicinoids	Capable of causing respiratory sensitisation.
Engineering Control Measures	Exposure to this material may be controlled in a number of ways. The measures appropriate for a particular worksite depend on how the material is used and on the potential for exposure.
Respiratory Protection	Respiratory protection if there is a risk of exposure to high vapour concentrations.
Hand Protection	PVC or rubber gloves.
Eye Protection	Chemical goggles if there is a risk of splashing.
Body Protection	If there is danger of splashing, wear: rubber apron.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid.
Colour	Red Brown.
Odour	Sharp. Strong.
pH	Not soluble in water.
Boiling Range/Point (°C)	Residual liquid: >70
Flash Point (PMCC) (°C)	<-18
Explosion Limits (%)	1.8 to 10.
Solubility in Water (kg/m3)	Insoluble.
Vapour Pressure (kPa)	Aerosol: 450 at 25 °C.
Density (kg/m3)	720.
Auto-flammability (deg C)	370
Viscosity (cSt)	2 at 25 °C.

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Conditions to Avoid	Exposure to direct sunlight. Temperatures in excess of 50 °C.
Materials to Avoid	Oxidising agents.
Hazardous Decomposition Products	Incomplete combustion will generate: oxides of carbon. carbon monoxide. acrid smoke and irritating fumes.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity	Low order of acute toxicity.
Irritancy - Eyes	Strong eye irritant
Irritancy - Skin	A single 4h semi-occlusive application to intact rabbit skin produced severe irritation (mean scores for erythema or oedema much greater than 2).
Skin Sensitisation	The possibility of allergic sensitisation should be considered.
Sub-acute/Subchronic Toxicity	Exposure by inhalation has been reported to cause decreased activity and narcosis.

11. TOXICOLOGICAL INFORMATION

Chronic Toxicity/Carcinogenicity	None known.
Genotoxicity	No relevant studies identified.
Human Data	Inhalation may cause respiratory sensitisation.

12. ECOLOGICAL INFORMATION

Mobility	If released to water the product will float.
Persistence/Degradability	The product is expected to be partially or slowly biodegradable.
Bio-accumulation	Product is not expected to bioaccumulate.
Ecotoxicity	The product is rated as slightly toxic to aquatic species.

13. DISPOSAL

Product Disposal	Remove leaking container to a safe place. Do not incinerate closed containers. Dispose of in accordance with all applicable local and national regulations.
Container Disposal	Do not cut, puncture or weld on or near to the container. Do not incinerate closed containers.

14. TRANSPORT INFORMATION

UN Number	1950
UN Proper Shipping Name	Hydrocarbon gas, compressed, n.o.s. or Hydrocarbon gas mixtures, compressed, n.o.s.
UN Class	2.1
ADR/RID/Land - Substance Identification Number	1950
ADR/RID/Land - Bill of Freight Description	Aerosols
ADR/RID/Land - Class	2
ADR/RID/Land - Item No.	5F
IMDG - Proper Shipping Name	Aerosols
IMDG - Class	2.1
IMDG - Ems Number	F-D, SU
IATA - Proper Shipping Name	Aerosol, flammable, n.o.s. (less than 1 litre capacity)
IATA - Packaging Group	Not applicable.
IATA - Class	2.1

15. REGULATORY INFORMATION

Labelling Information

Extremely flammable

Irritant

Aerosol Labelling	Extremely flammable. Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Keep away from sources of ignition - No smoking. Do not spray on naked flame or any incandescent material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Irritating to eyes and skin. Keep out of the reach of children.
R phrases	R12 Extremely flammable. R38 Irritating to skin. R43 May cause sensitisation by skin contact.
S phrases	S2 Keep out of reach of children. S3 Keep in a cool place. S51 Use only in well ventilated areas. S24/25 Avoid contact with skin and eyes. S16 Keep away from sources of ignition - No Smoking. S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
EINECS Listing	Preparation containing solely EINECS listed substances.
EC Annex I Classification	F+ - Extremely flammable Xi - Irritant

16. OTHER INFORMATION

Purpose of use	As per Product Data Sheet
MSDS first issued	13 October 2004
MSDS data revised	

Disclaimer

All information and instructions in this MSDS are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. It is the responsibility of persons in receipt of this MSDS to ensure that the information contained herein, even when supplied to third parties, is passed onto and is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. However, since the conditions of handling

16. OTHER INFORMATION

and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with applicable federal, state and local laws and regulations.