



Section 1: Identification of the Material and Supplier

Product Name: Klenz-in-One

Other Names: Phosphoric acid solution containing iodine and surfactants.

Proper shipping name (ADG Code): Corrosive liquid, n.o.s.
(phosphoric acid, iodine)

Recommended use: As a low foam dairy cleaner / sanitiser.
Use as directed on the product label.

Supplier: DASCO Pty. Ltd.,
ABN: 14 004 581 113
24 - 26 Helen Street, HEIDELBERG HEIGHTS VIC 3081
Tel: (03) 9459 7004 (business hours)
Fax: (03) 9459 9200

Emergency Phone Numbers:
Transport/Fire Emergency: 000 (Emergency services)
Medical Emergency: 131126 (Poisons Information Centre)

Section 2: Hazards Identification

Classified as hazardous according to criteria of Worksafe Australia.

Dangerous goods.

Risk Phrases: R: 34 Causes burns.

Safety Phrases: S: 1/2 Keep locked up and out of the reach of children.
S: 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S: 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Section 3: Composition/Information on Ingredients

Ingredients:

Phosphoric acid	[7664-38-2]	> 60 %
Ethylene glycol monobutyl ether	[111-76-2]	< 10 %
Surfactant		< 10 %
Iodine	[7553-56-2]	< 1 %
Water	[7732-18-5]	to 100 %

Section 4: First Aid Measures

For advice, contact a Poisons Information Centre (Phone 131 126) or a doctor.

- Swallowed: If swallowed, do NOT induce vomiting.
- Skin: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.
- Eyes: If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Center or a doctor, or for at least 15 minutes.
- Inhaled: Remove from exposure, rest and keep warm. Seek medical advice.

First Aid facilities:

- Mandatory: Eye wash. Hand wash basin.
- Recommended: Emergency shower if handling industrial quantities.

Advice to Doctor:

Product is a strong solution of phosphoric acid containing low proportions of a surfactant and ethylene glycol monobutyl ether, and a very low proportion of iodine. Corrosive by all routes. Risk of serious eye damage. Contact Poisons Information Centre.

Aggravated medical conditions:

Persons with kidney, lung or thyroid disease, or disfunction, should consult a physician before working with, or using, this product.

Section 5: Fire Fighting Measures

- HAZCHEM Code: 2 X
- Evacuate: No.
- Extinguishant: Water fog or fine water spray.
- Risk of violent reaction or explosion: No.
- Products of combustion: Oxides of phosphorus, oxides of carbon, hydrogen iodide, iodine.
- Protective Equipment: Full protective clothing including breathing apparatus and protective gloves.

Section 6: Accidental Release Measures

Emergency Procedures:

Contain.
Increase ventilation.

For large spills:

Contain spillage using sand or earth. Transfer both liquids and solids to suitable container. Treat residues as for small spillages.

For small spills:

Spillages may be neutralised by the application of liberal quantities of soda ash. Wait until reaction ceases. If local regulations permit, mop up with plenty of water and run to waste, diluting greatly with running water. Otherwise absorb on inert absorbent, transfer to suitable container and arrange removal by disposals company.

Section 7: Handling and Storage

Precautions for safe handling:

Avoid contact with skin and eyes.
Keep away from alkalis (including carbonates and bicarbonates), oxidising agents, active metals.

Conditions for safe storage:

Store in a cool, well ventilated place, out of reach of children. Large quantities should be stored in a bonded dangerous goods store. Store in original container. Keep container tightly closed and out of direct sunlight. Keep away from alkalis, oxidising agents, organic sulphides and mercaptans, active metals. Protect from physical damage. Clean up all spills and splashes promptly; avoid secondary accidents.

Incompatibles:

Oxidising agents, alkalis, some common metals, mercaptans and organic sulphides, epoxides and azo compounds.

Section 8: Exposure Controls/Personal Protection

National Exposure Standards:

ES-TWA:	Phosphoric acid	1 mg/m ³
	Ethylene glycol monobutyl ether	25 ppm, 121 mg/m ³
	Iodine	0.1 ppm, 1 mg/m ³
ES-STEL:	Phosphoric acid	3 mg/m ³
	Ethylene glycol monobutyl ether (none assigned by NOHSC, but see:)	40 ppm, 200 mg/m ³ [Netherlands, Hungary]
ES-PEAK:	Iodine	0.1 ppm, 1 mg/m ³
Notations:	Ethylene glycol monobutyl ether	Skin
	Iodine (None assigned by NOHSC, but see:)	Skin [Finland, Russia]

[Skin] indicates that this material may be absorbed via unbroken skin, and any such contact may invalidate the TLV.

[Peak] indicates a ceiling concentration which should not be exceeded, even momentarily.

Biological Limit Values: No data found.

Engineering Controls:

Avoid using active metals as materials of construction.
Ensure adequate ventilation (same as outdoors) when using.
If handling industrial quantities, or if vapour/aerosol risk exists, consider local mechanical exhaust/extraction to keep airborne contamination as low as possible, and at least below the TLVs.

Personal Protective Equipment:

Avoid contact with skin and eyes. Avoid breathing vapours or aerosols. Personal protection to be selected from those recommended below, as appropriate to mode of use, quantity handled and degree of hazard:-

Normal Use:

Eye/face protection
Gloves, rubber or plastic.

Industrial Quantities:

Face shield or safety glasses
Gloves, rubber or plastic
Plastic apron, sleeves and boots
Impervious overalls.

Section 9: Physical and Chemical Properties

Appearance: Dark, mobile liquid.
Odour: Mild smell of detergent and iodine.
pH: About 1 Very acid.
Vapour Pressure: No data.
Vapour Density: No data.
Boiling Point: > 100 °C
Melting Point: No data.
Volatiles: About 40 %
Volatile Organic Compounds (VOC): < 10 %
Evaporation Rate: No data.
Solubilities: Miscible with water in all proportions.
Specific Gravity/Density: 1.38 g/mL @ 20 °C
Flash Point: None.
Flammable Limits: None.
Dust Explosion: Not applicable.
Auto-ignition Temperature: No data.

Other Information:

Strongly acid. Will react vigorously or violently with alkalis. Contact with carbonates or bicarbonates will generate carbon dioxide, a simple asphyxiant. May react with strong oxidising agents. May be corrosive to many common metals, generating hydrogen, a flammable gas. Slippery when spilled.

Section 10: Stability and Reactivity

Chemical Stability: Stable under normal conditions.

Conditions to Avoid: Incompatible materials.

Incompatible Materials: Alkalis, active metals, oxidising agents, mercaptans and organic sulphides.

Hazardous Decomposition Products: Oxides of phosphorus, hydrogen iodide, iodine.

Hazardous Reactions: May react vigorously or violently with alkalis. Corrosive to many common metals.

Section 11: Toxicological Information

Health Effects:

No data available for the mixture. Information presented relates to individual ingredients.

Acute:	Swallowed:	Corrosive to most tissues. May cause pain in the throat and stomach, abdominal cramps, a burning sensation, nausea, vomiting and intense thirst. May cause burns to the stomach and intestines, haemorrhaging of the digestive tract, and corrosion and permanent tissue destruction of the oesophagus and digestive tract. Large quantities may cause shock, clammy skin, weak and rapid pulse, shallow breathing, weakness, confusion, loss of consciousness, reduced urine output and death. A possible aspiration risk.
	Skin:	Severe skin irritant. May cause redness, pain, blisters and burns. Slight exposure may cause skin rash, more severe exposure may lead to cyanosis or pale skin.
	Eyes:	Severe eye irritant. May cause redness, pain, blurred vision, severe deep burns. May cause chemical conjunctivitis and corneal damage.
	Inhaled:	1 - 5 mg/m ³ of phosphoric acid vapour/aerosol may cause irritation of the nose and throat, 4 - 11 mg/m ³ may cause coughing. Corrosive to lung tissues. May cause a burning sensation in the chest, cough, laboured breathing, shortness of breath, sore throat and loss of consciousness. Prolonged exposure may lead to pulmonary oedema (fluid build-up in the lungs). Onset of symptoms may be delayed, but made worse by physical exertion. Aspiration of froth into the lungs during swallowing or vomiting may lead to chemical pneumonitis (inflammation of lung tissues) and pulmonary oedema. Onset of symptoms may be delayed.
Chronic:		Repeated skin exposure may lead to irritation and burns. Prolonged exposure to phosphoric acid may affect the blood, liver and bone marrow. Prolonged exposure to ethylene glycol monobutyl ether may affect the blood and bone marrow. Ethylene glycol monobutyl ether has been classified as carcinogenic by RTECS criteria, by inhalation in experimental animals. (1)(2)
LD50:	Phosphoric acid	1,530 mg/kg oral, rat. 2,740 mg/kg skin, rabbit.
	Surfactant	No data found.

Section 11: Toxicological Information (continued)

	Ethylene glycol monobutyl ether	917 mg/kg oral, rat. 1,167 mg/kg oral, mouse.
LC50:	Phosphoric acid	> 850 mg/m ³ /1 hour - rat.
	Ethylene glycol monobutyl ether	2,900 mg/m ³ /7 hours, rat.
LDLo:	Phosphoric acid	220 mg/kg oral, man.
	Ethylene glycol monobutyl ether	143 mg/kg oral, human.

Section 12: Ecological Information

Ecotoxicity:	Harmful to aquatic organisms.
Persistence and degradability:	No data.
Mobility:	Readily transported by water.
Environmental Fate:	Slowly neutralised to inorganic phosphate.
Bioaccumulative potential:	No data.
Other adverse environmental effects:	Contains phosphate. Will contribute to the development of algal bloom in natural waters. Contains a surfactant. Local concentrations may be harmful to aquatic organisms, including fish.

Section 13: Disposal Considerations

The generator of any wastes from this product is responsible for its proper classification, transport and disposal.

Consult appropriate local and State regulations.

Disposal methods and containers:

Avoid disposal to drains, natural waters or the environment.
Do not use metal containers.

Special precautions for landfill or incineration:

Unsuitable for incineration.
May not be suitable for some landfill sites.

Section 14: Transport Information

UN Number: UN 1760

UN Proper shipping name: Corrosive liquid, n.o.s.
(phosphoric acid, iodine)

Class and subsidiary risk: 8 Corrosive.

Packaging group: III

Special precautions for user: Do not store or transport with dangerous goods of classes 1, 4.3, 5.1, 5.2, 6 (cyanides), 7, 8 (alkalis), foodstuffs or foodstuff empties.
Contain spillages.

HAZCHEM Code: 2 X

Material for export: Regulated.
Refer to **IMO\IMDG** and **IATA\ICAO**.

Section 15: Regulatory Information

Poisons (SUSDP): Schedule 6
Phosphoric acid > 35 %, and Iodine

Dangerous Goods: Yes. UN 1760 8/III 2 X.

Carcinogen: **Australia** **IARC** **NTP** **RTECS**
No. No. Yes. Yes.

Agricultural and Veterinary Chemicals Act:
This product is registered with the Australian Pesticides and Veterinary Medicines Authority (**APVMA**).

Australian Inventory of Chemical Substances (AICS): Listed.

Other National/International Regulations: No data found.

Section 16: Other information

Date of MSDS update: September 2009
Complete review and re-write of all sections.

Abbreviations:

NOHSC - National Occupational Health and Safety Commission.
ACGIH - American Conference of Governmental Industrial Hygienists.
MAK - Maximum workplace concentration - Germany,
(*maximale Arbeitsplatzkonzentration*)
IARC - International Agency for Research on Cancer (France).
NTP - National Toxicology Program (USA).
RTECS - Registry of Toxic Effects of Chemical Substances.

Literature references:

- (1) *National Toxicology Program Technical Report Series.*
(Research Triangle Park, NC 27709) NTP-TR-484, 2000.
- (2) *National Technical Information Service.*
(Springfield, VA 22161) PB#2000-105865.

Available Sources of Data:

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [2011(2003)] - NOHSC.
Australian Dangerous Goods Code.
Standard for the Uniform Scheduling of Drugs and Poisons - AHMAC.
Exposure Standards for Atmospheric Contaminants in the Occupational Environment [1003]- NOHSC.
List of Designated Hazardous Substances [10005] - NOHSC.
Merck Index - Merck Inc.
Sax's Dangerous Properties of Industrial Materials - Lewis.
Handbook of Toxic and Hazardous Chemicals and Carcinogens - Sittig.
Handbook of Reactive Chemical Hazards - Bretherick.
Hawley's Condensed Chemical Dictionary - Wiley Interscience.
AUSREG's Chemical Data Package for PCs - AUSREG Consultancy.