

# SAFETY DATA SHEET



Revision date: 18-Mar-2022

Revision Number 4

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### Product identifier

**Product Name** NITRIC ACID 45%

**Product Code(s)** 000000051444

### Other means of identification

**UN number** 2031

### Recommended use of the chemical and restrictions on use

**Recommended use** CIP (cleaning in process) acid for cleaning of stainless steel processing equipment in the dairy/food industry.

**Uses advised against** No information available.

### Supplier

Ixom Operations Pty Ltd  
ABN: 51 600 546 512  
Level 8, 1 Nicholson Street  
Melbourne 3000  
Australia

Telephone Number: +61 3 9906 3000

### Emergency telephone number

Emergency telephone number **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

### GHS Classification

Classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

<b>Corrosive to metals</b>	Category 1
<b>Acute toxicity - Inhalation (Vapors)</b>	Category 3
<b>Skin corrosion/irritation</b>	Category 1 Sub-category A
<b>Serious eye damage/eye irritation</b>	Category 1

### **SIGNAL WORD**

Danger

### Label elements

Corrosion  
Skull and crossbones

**Hazard statements**

H290 - May be corrosive to metals

H314 - Causes severe skin burns and eye damage

H331 - Toxic if inhaled

**Precautionary Statements - Prevention**

Keep only in original container

Do not breathe fume, gas, mist, vapours, spray

Wear respiratory protection

Wash face, hands and any exposed skin thoroughly after handling

Use only outdoors or in a well-ventilated area

Wear protective gloves / protective clothing / eye protection / face protection

Avoid release to the environment

**Precautionary Statements - Response**

Specific treatment is urgent (see First aid on this SDS)

Immediately call a POISON CENTER or doctor/physician

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Immediately call a POISON CENTER or doctor/physician

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Immediately call a POISON CENTER or doctor/physician

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Absorb spillage to prevent material damage

**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep container tightly closed

Store locked up

Store in corrosive resistant container with a resistant inner liner

**Precautionary Statements - Disposal**

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Other hazards which do not result in classification**

AUH071 - Corrosive to the respiratory tract

**General Hazards**

Poisons Schedule (SUSMP)

6

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Mixture**

Chemical name	CAS No.	Weight-%
Nitric acid	7697-37-2	45
Non hazardous component(s)	-	to 100

**4. FIRST AID MEASURES****Description of first aid measures**

---

<b>General advice</b>	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor. Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
<b>Skin contact</b>	IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. Get immediate medical advice/attention.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. Avoid contact with skin, eyes, and clothing. Do not breathe vapor or mist. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. See section 8 for more information.

**Most important symptoms and effects, both acute and delayed**

<b>Symptoms</b>	Irritation/Corrosion. May cause redness and tearing of the eyes. May cause blindness. Coughing and/ or wheezing. Difficulty in breathing.
-----------------	---

**Indication of any immediate medical attention and special treatment needed**

<b>Note to physicians</b>	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Can cause corneal burns. Effects from exposure to decomposition products including nitrogen dioxide (possible decomposition component) can include chest discomfort, shortness of breath and possible pulmonary oedema, the onset of which may be delayed. The exposed person should be kept under medical surveillance for 24 hours for delayed onset of pulmonary oedema.
---------------------------	--

**5. FIRE FIGHTING MEASURES****Suitable Extinguishing Media**

**Suitable Extinguishing Media** Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the** Corrosive hazard. Wear protective gloves/clothing and eye/face protection. The product

**chemical** causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

**Special protective actions for fire-fighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Move containers from fire area if you can do it without risk.

**Hazchem code** 2R

## **6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Attention! Corrosive material. Avoid contact with skin, eyes, and clothing. Do not breathe vapor or mist. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use personal protective equipment as required. See section 8 for more information.

**Other information** Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Should not be released into the environment. Do not allow to enter into soil/subsoil.

**Methods and material for containment and cleaning up**

**Methods for containment** Dike far ahead of spill; use dry sand to contain the flow of material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Stop leak if you can do it without risk.

**Methods for cleaning up** Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. After cleaning, flush away traces with water. Prevent product from entering drains.

## **7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling** Avoid contact with skin, eyes, and clothing. Do not breathe vapor or mist. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear suitable respiratory equipment. Use personal protection equipment. Handle in accordance with good industrial hygiene and safety practice. When diluting, always add the product to water. Never add water to the product.

**General hygiene considerations** Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes, and clothing. Do not breathe vapor or mist. Wear suitable gloves and eye/face protection.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly

labelled containers. Keep out of the reach of children. Store locked up. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store in accordance with local regulations. Store in accordance with the particular national regulations.

This material is a Scheduled Poison and must be stored, maintained and used in accordance with the relevant regulations.

**Incompatible materials** Alkalis. Carbides. Chlorates. Reducing agents. Metals.

**Poisons Schedule (SUSMP)** 6

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Limits** No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

Nitric acid: 8hr TWA = 5.2 mg/m<sup>3</sup> (2 ppm), 15 min STEL = 10 mg/m<sup>3</sup> (4 ppm)

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

### Appropriate engineering controls

**Engineering controls** Ensure that eyewash stations and safety showers are close to the workstation location. Ventilation systems. Ensure ventilation is adequate to maintain air concentrations below Workplace Exposure Standards. Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

### Individual protection measures, such as personal protective equipment

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, CHEMICAL GOGGLES, RUBBER BOOTS, AIR MASK , GLOVES (Long), APRON.

NOTE: Chemical goggles and face shield are not required if wearing an air-supplied mask.



<b>Eye/face protection</b>	Tight sealing safety goggles. If splashes are likely to occur: Face protection shield.
<b>Skin and body protection</b>	Boots. Long sleeved clothing. Wear fire/flammable resistant/retardant clothing. Chemical resistant apron. Overalls.
<b>Hand protection</b>	Elbow-length impervious gloves.
<b>Respiratory protection</b>	If determined by a risk assessment an inhalation risk exists, wear an air supplied respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.
<b>Environmental exposure controls</b>	No information available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	Clear
<b>Color</b>	Pale Yellow
<b>Odor</b>	Characteristic Acidic
<b>Odor threshold</b>	No information available.

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	No data available	
<b>pH (as aqueous solution)</b>	No data available	None known
<b>Melting point / freezing point</b>	No data available	
<b>Boiling point / boiling range</b>	No data available	
<b>Flash point</b>	Not applicable	
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	Not applicable	
<b>Lower flammability or explosive limits</b>	Not applicable	
<b>Vapor pressure</b>	No data available	None known
<b>Vapor density</b>	No data available	None known
<b>Relative density</b>	1.29	
<b>Water solubility</b>	Miscible in water	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	Not applicable	
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	

### Other information

## 10. STABILITY AND REACTIVITY

**Reactivity****Reactivity** Reacts with strong alkalis. Corrosive to metals.**Chemical stability****Stability** Stable under normal conditions.**Explosion data****Sensitivity to mechanical impact** None.**Sensitivity to static discharge** None.**Possibility of hazardous reactions****Possibility of hazardous reactions** Contact with metals may evolve flammable hydrogen gas.**Hazardous polymerization** Hazardous polymerization does not occur.**Conditions to avoid****Conditions to avoid** Direct sunlight.**Incompatible materials****Incompatible materials** Alkalis. Carbides. Chlorates. Reducing agents. Metals.**Hazardous decomposition products****Hazardous decomposition products** Nitrogen oxides.**11. TOXICOLOGICAL INFORMATION****Acute toxicity****Information on likely routes of exposure**

<b>Product Information</b>	No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:
<b>Inhalation</b>	Toxic by inhalation. Corrosive to the respiratory tract. Inhaled corrosive substances can lead to a toxic edema of the lungs. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Pulmonary edema can be fatal.
<b>Eye contact</b>	Causes serious eye damage. Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.
<b>Skin contact</b>	Causes severe burns.
<b>Ingestion</b>	Can burn mouth, throat, and stomach. Large exposures may be fatal.
<b>Symptoms</b>	Irritation/Corrosion. May cause redness and tearing of the eyes. May cause blindness. Coughing and/ or wheezing. Difficulty in breathing.

**Numerical measures of toxicity - Product Information****ATEmix (inhalation-vapor)** ca. 4.12 mg/L

See section 16 for terms and abbreviations

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin corrosion/irritation</b>	Causes severe burns. Classification is based on mixture calculation methods based on component data.
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage. Classification is based on mixture calculation methods based on component data.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	Corrosive to the respiratory tract.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.
<b>Chronic effects:</b>	Chronic overexposure to vapour, fumes or aerosols may produce adverse effects on the lungs and erosion of the teeth.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Ecotoxicity** Keep out of waterways.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Nitric acid	-	LC50: =72mg/L (96h, Gambusia affinis)	-	-

### Persistence and degradability

**Persistence and degradability** No information available.

### Bioaccumulative potential

**Bioaccumulation** There is no data for this product.

### Component Information

Chemical name	Partition coefficient
Nitric acid	-2.3

### Mobility

**Mobility in soil** No information available.

### Other adverse effects



### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

<b>Waste from residues/unused products</b>	Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. TRANSPORT INFORMATION

#### ADG

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

<b>UN number</b>	2031
<b>Proper shipping name</b>	NITRIC ACID
<b>Hazard class</b>	8
<b>Packing group</b>	II
<b>Hazchem code</b>	2R

#### IATA

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

TRANSPORT PROHIBITED under the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air in Passenger and Cargo Aircraft; may be transported by Cargo Aircraft Only.

<b>UN number</b>	2031
<b>UN proper shipping name</b>	NITRIC ACID
<b>Transport hazard class(es)</b>	8
<b>Packing group</b>	II

#### IMDG

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

<b>UN number</b>	2031
<b>UN proper shipping name</b>	NITRIC ACID
<b>Transport hazard class(es)</b>	8
<b>Packing group</b>	II
<b>IMDG EMS Fire</b>	F-A
<b>IMDG EMS Spill</b>	S-Q
<b>Marine pollutant</b>	No

### 15. REGULATORY INFORMATION

#### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### National regulations

##### Australia

Classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

See section 8 for national exposure control parameters

**Poisons Schedule (SUSMP)** 6

#### National pollutant inventory

Subject to reporting requirement

Chemical name	National pollutant inventory
Nitric acid - 7697-37-2	10 tonne/yr Threshold category 1

#### International Inventories

**AIC** All the constituents of this material are listed on the Australian Inventory of Industrial Chemicals.

#### Legend:

**AIC - Australian Inventory of Industrial Chemicals**

#### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

## 16. OTHER INFORMATION

**Reason(s) For Issue:** Revised Primary SDS  
Change in Hazardous Chemical Classification

**Issuing Date:** 18-Mar-2022

This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

#### Revision Note:

The symbol (\*) in the margin of this SDS indicates that this line has been revised.

#### Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

#### Key literature references and sources for data used to compile the SDS

EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGL(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australian Industrial Chemicals Introduction Scheme (AICIS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

**Disclaimer**

**This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.**

**If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.**

**Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.**

**End of Safety Data Sheet**