ISN Organic - Rejuvenator Plus

ISN Nutrients Pty Ltd

Chemwatch Hazard Alert Code: **3**

Chemwatch: **5652-55**
Version No: **3.1**
Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Issue Date: **26/02/2024**
Print Date: **27/02/2024**
S.GHS.AUS.EN.E

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier

Product name	ISN Organic - Rejuvenator Plus
Chemical Name	Not Applicable
Synonyms	Not Available
Proper shipping name	OXIDISING LIQUID, N.O.S. (contains calcium nitrate and magnesium nitrate)
Chemical formula	Not Applicable
Other means of identification	Not Available

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Used for the deficiency correction and plant growth promotion.

Details of the manufacturer or supplier of the safety data sheet

Registered company name	**ISN Nutrients Pty Ltd**
Address	13-15 King William Road Unley SA 5061 Australia
Telephone	+61 0478 770 067
Fax	Not Available
Website	www.isnnutrients.com.au
Email	admin@isnnutrients.com.au

Emergency telephone number

Association / Organisation	**Michael Romeo**
Emergency telephone numbers	+61 0439 778 339
Other emergency telephone numbers	Not Available

SECTION 2 Hazards identification

Classification of the substance or mixture

Poisons Schedule	S5
Classification [1]	Oxidizing Liquids Category 3, Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 2A, Reproductive Toxicity Category 1B
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI*

Label elements

Hazard pictogram(s)	
Signal word	**Danger**

Hazard statement(s)

H272	May intensify fire; oxidiser.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H360FD	May damage fertility. May damage the unborn child.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P220	Keep away from clothing and other combustible materials.
P261	Avoid breathing mist/vapours/spray.
P264	Wash all exposed external body areas thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/ attention.
P370+P378	In case of fire: Use alcohol resistant foam or fine spray/water fog to extinguish.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

Precautionary statement(s) Storage

P405	Store locked up.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
10124-37-5	10-30	calcium nitrate
13446-18-9	10-30	magnesium nitrate
15708-42-6	<5	EDTA iron sodium salt
10043-35-3	<1	boric acid
7631-95-0	<1	sodium molybdate
14025-21-9	<1	EDTA disodium zinc salt
Not Available	balance	Ingredients determined not to be hazardous
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available*	

SECTION 4 First aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ‣ Immediately hold eyelids apart and flush the eye continuously with 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. ‣ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ‣ Transport to hospital or doctor without delay. ‣ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: ‣ Immediately flush body and clothes with large amounts of water, using safety shower if available. ‣ Quickly remove all contaminated clothing, including footwear. ‣ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. ‣ Transport to hospital, or doctor.
Inhalation	‣ If fumes or combustion products are inhaled remove from contaminated area. ‣ 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. ‣ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ‣ Transport to hospital, or doctor, without delay.
Ingestion	‣ **IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.** ‣ For advice, contact a Poisons Information Centre or a doctor. ‣ Urgent hospital treatment is likely to be needed. ‣ In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. ‣ If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist. ‣ If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.

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	Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise: - **INDUCE** vomiting with fingers down the back of the throat, **ONLY IF CONSCIOUS**. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. **NOTE:** Wear a protective glove when inducing vomiting by mechanical means.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

The toxicity of nitrates and nitrites result from their vasodilating properties and their propensity to form methaemoglobin.

- Most produce a peak effect within 30 minutes.
- Clinical signs of cyanosis appear before other symptoms because of the dark pigmentation of methaemoglobin.
- Initial attention should be directed towards improving oxygen delivery, with assisted ventilation, if necessary. Hyperbaric oxygen has not demonstrated conclusive benefits.
- Institute cardiac monitoring, especially in patients with coronary artery or pulmonary disease.
- Hypotension should respond to Trendelenburg's position and intravenous fluids; otherwise dopamine may be needed.
- Naloxone, glucose and thiamine should be given if a multiple ingestion is suspected.
- Decontaminate using Ipecac Syrup for alert patients or lavage for obtunded patients who present within 2-4 hours of ingestion.
- Symptomatic patients with methaemoglobin levels over 30% should receive methylene blue.(Cyanosis alone, is not an indication for treatment). The usual dose is 1-2 mg/kg of a 1% solution (10 mg/ml) IV over 5 minutes; repeat, using the same dose if symptoms of hypoxia fail to subside within 1 hour.

[*Ellenhorn and Barceloux: Medical Toxicology*]

BIOLOGICAL EXPOSURE INDEX - BEI

These represent the determinants observed in specimens collected from a healthy worker who has been exposed at the Exposure Standard (ES or TLV):

Determinant	Index	Sampling Time	Comments
1. Methaemoglobin in blood	1.5% of haemoglobin	During or end of shift	B,NS,SQ

B: Background levels occur in specimens collected from subjects **NOT** exposed

NS: Non-specific determinant;also observed after exposure to other materials

SQ: Semi-quantitative determinant - Interpretation may be ambiguous; should be used as a screening test or confirmatory test.

SECTION 5 Firefighting measures

Extinguishing media

FOR **SMALL FIRE:**

- USE FLOODING QUANTITIES OF WATER.
- **DO NOT** use dry chemical, CO2, foam or halogenated-type extinguishers.

FOR **LARGE FIRE**

- Flood fire area with water from a protected position

Special hazards arising from the substrate or mixture

Fire Incompatibility	- Avoid storage with reducing agents. - Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous

Advice for firefighters

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. - Fight fire from a safe distance, with adequate cover. - Extinguishers should be used only by trained personnel. - Use water delivered as a fine spray to control fire and cool adjacent area. - Avoid spraying water onto liquid pools. - **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. - If fire gets out of control withdraw personnel and warn against entry. - Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	- Will not burn but increases intensity of fire. - May explode from friction, shock, heat or containment. - Heating may cause expansion or decomposition leading to violent rupture of containers. - Heat affected containers remain hazardous. - Contact with combustibles such as wood, paper, oil or finely divided metal may produce spontaneous combustion or violent decomposition. - May emit irritating, poisonous or corrosive fumes. - Combustion/decomposition may produce acrid/toxic fumes of carbon monoxide (CO). - The material is not readily combustible under normal conditions. - However, it will break down under fire conditions and the organic component may burn. - Not considered to be a significant fire risk. - Heat may cause expansion or decomposition with violent rupture of containers. - Decomposes on heating and may produce toxic fumes of carbon monoxide (CO). - May emit acrid smoke. Decomposes on heating and produces toxic fumes of: carbon dioxide (CO2) nitrogen oxides (NOx) metal oxides other pyrolysis products typical of burning organic material.

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SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	Clean up all spills immediately. No smoking, naked lights, ignition sources. Avoid all contact with any organic matter including fuel, solvents, sawdust, paper or cloth and other incompatible materials, as ignition may result. Avoid breathing dust or vapours and all contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with dry sand, earth, inert material or vermiculite. **DO NOT** use sawdust as fire may result. Scoop up solid residues and seal in labelled drums for disposal. Neutralise/decontaminate area.
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 and protective gloves. Prevent, by any means available, spillage from entering drains or water courses. No smoking, flames or ignition sources. Increase ventilation. Contain spill with sand, earth or other clean, inert materials. **NEVER USE** organic absorbents such as sawdust, paper or cloth. Use spark-free and explosion-proof equipment. Collect any recoverable product into labelled containers for possible recycling. Avoid contamination with organic matter to prevent subsequent fire and explosion. **DO NOT** mix fresh with recovered material. Collect residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains. Decontaminate equipment and launder protective clothing before storage and re-use. If contamination of drains or waterways occurs advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	**DO NOT** allow clothing wet with material to stay in contact with skin For oxidisers, including peroxides. · Avoid personal contact and inhalation of dust, mist or vapours. · Provide adequate ventilation. · Always wear protective equipment and wash off any spillage from clothing. · Keep material away from light, heat, flammables or combustibles. · Keep cool, dry and away from incompatible materials. · Avoid physical damage to containers. · **DO NOT** repack or return unused portions to original containers. Withdraw only sufficient amounts for immediate use. · Use only minimum quantity required. · Avoid using solutions of peroxides in volatile solvents. Solvent evaporation should be controlled to avoid dangerous concentration of the peroxide. · Do NOT allow oxidisers to contact iron or compounds of iron, cobalt, or copper, metal oxide salts, acids or bases. · Do NOT use metal spatulas to handle oxidisers · Do NOT use glass containers with screw cap lids or glass stoppers. · Store peroxides at the lowest possible temperature, consistent with their solubility and freezing point. · CAUTION: Do NOT store liquids or solutions of peroxides at a temperature below that at which the oxidiser freezes or precipitates. Peroxides, in particular, in this form are extremely shock and heat-sensitive. Refrigerated storage of peroxides must ONLY be in explosion-proof units. · The hazards and consequences of fires and explosions during synthesis and use of oxidisers is widely recognised; spontaneous or induced decomposition may culminate in a variety of ways, ranging from moderate gassing to spontaneous ignition or explosion. The heat released from spontaneous decomposition of an energy-rich compound causes a rise in the surrounding temperature; the temperature will rise until thermal balance is established or until the material heats to decomposition, · The most effective means for minimising the consequences of an accident is to limit quantities to a practical minimum. Even gram-scale explosions can be serious. Once ignited the burning of peroxides cannot be controlled and the area should be evacuated. · Unless there is compelling reason to do otherwise, peroxide concentration should be limited to 10% (or less with vigorous reactants). Peroxide concentration is rarely as high as 1% in the reaction mixture of polymerisation or other free-radical reactions, · Oxidisers should be added slowly and cautiously to the reaction medium. This should be completed prior to heating and with good agitation. · Addition oxidisers to the hot monomer is extremely dangerous. A violent reaction (e.g., fire or explosion) can result from inadvertent mixing of promoters (frequently used with peroxides in polymerisation systems) with full-strength oxidisers · Organic peroxides are very sensitive to contamination (especially heavy-metal compounds, metal oxide salts, alkaline materials including amines, strong acids, and many varieties of dust and dirt). This can initiate rapid, uncontrolled decomposition of peroxides and possible generation of intense heat, fire or explosion The consequences of accidental contamination from returning withdrawn material to the storage container can be disastrous. · When handling **NEVER** smoke, eat or drink. · Always wash hands with soap and water after handling. · Use only good occupational work practice. · Observe manufacturer's storage and handling recommendations contained within this MSDS.

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Other information	Consider storage under inert gas. ▸ Store in original containers. ▸ Keep containers securely sealed as supplied. ▸ Store in a cool, well ventilated area. ▸ Keep dry. ▸ Store under cover and away from sunlight. ▸ Store away from flammable or combustible materials, debris and waste. Contact may cause fire or violent reaction. ▸ Store away from incompatible materials and foodstuff containers. ▸ **DO NOT** stack on wooden floors or pallets. ▸ Protect containers from physical damage. ▸ Check regularly for leaks. ▸ Observe manufacturer's storage and handling recommendations contained within this SDS. In addition, Goods of Class 5.1, packing group III should be stored in packages and be separated from buildings, tanks, and compounds containing other dangerous goods in tanks, and from property boundaries by a distance of at least 5 metres.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ **DO NOT** repack. Use containers supplied by manufacturer only. For low viscosity materials ▸ Drums and jerricans must be of the non-removable head type. ▸ Where a can is to be used as an inner package, the can must have a screwed enclosure. For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids: ▸ Removable head packaging and ▸ cans with friction closures may be used. - Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages *. - In addition, where inner packagings are glass and contain liquids of packing group I and II there must be sufficient inert absorbent to absorb any spillage *. - * unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.
Storage incompatibility	for metal nitrates: ▸ Segregate from heavy metals, phosphides, sodium acetate, lead nitrate, tartrates, trichloroethylene, ▸ Avoid shock and heat. ▸ Mixtures of metal nitrates with alkyl esters may explode due to the formation of unstable alkyl nitrates. ▸ Mixtures of a nitrate with phosphorous, tin(II) chloride and other reducing agents may react explosively. ▸ Mixtures containing nitrates and organic materials are potentially dangerous, especially if acidic materials or heavy metals are present. ▸ Fibrous organic material, jute, wood and similar cellulosic material can become highly combustible by nitrate impregnation ▸ Metal nitrates are incompatible with cyanides, thiocyanates, isothiocyanates and hypophosphites. Avoid reaction with the following which can cause an explosion: barium thiocyanate, boron phosphide, cyanides, sodium hypophosphite, sulfur and charcoal, powdered aluminium or aluminium oxide, sodium thiosulfate. ▸ Mixtures of metal nitrates and phosphinates may explode on heating ▸ A mixture of aluminium powder, water and metal nitrate may explode due to a self accelerating reaction. ▸ Mixtures containing nitrates, nitrites and organic materials are potentially dangerous, especially in the presence of acidic materials and heavy metals ▸ Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous ▸ Incidents involving interaction of active oxidants and reducing agents, either by design or accident, are usually very energetic and examples of so-called redox reactions. ▸ Avoid reaction with oxidising agents, bases and strong reducing agents. ▸ Avoid strong acids, bases. ▸ Inorganic reducing agents react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent. ▸ Avoid storage with reducing agents.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	EDTA iron sodium salt	Iron salts, soluble (as Fe)	1 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	sodium molybdate	Molybdenum, soluble compounds (as Mo)	5 mg/m3	Not Available	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
calcium nitrate	1.2 mg/m3	13 mg/m3	79 mg/m3
calcium nitrate	12 mg/m3	130 mg/m3	770 mg/m3
magnesium nitrate	30 mg/m3	330 mg/m3	2,000 mg/m3
magnesium nitrate	16 mg/m3	180 mg/m3	1,100 mg/m3
boric acid	6 mg/m3	23 mg/m3	830 mg/m3
sodium molybdate	3.8 mg/m3	34 mg/m3	210 mg/m3
sodium molybdate	3.2 mg/m3	17 mg/m3	100 mg/m3

Ingredient	Original IDLH	Revised IDLH
calcium nitrate	Not Available	Not Available
magnesium nitrate	Not Available	Not Available
EDTA iron sodium salt	Not Available	Not Available

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Ingredient	Original IDLH	Revised IDLH
boric acid	Not Available	Not Available
sodium molybdate	1,000 mg/m3	Not Available
EDTA disodium zinc salt	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
calcium nitrate	E	≤ 0.01 mg/m³
magnesium nitrate	E	≤ 0.01 mg/m³
boric acid	D	> 0.01 to ≤ 0.1 mg/m³
EDTA disodium zinc salt	E	≤ 0.01 mg/m³
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

Exposure controls

Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
The basic types of engineering controls are:
Process controls which involve changing the way a job activity or process is done to reduce the risk.
Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.
Employers may need to use multiple types of controls to prevent employee overexposure.

Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.
An approved self contained breathing apparatus (SCBA) may be required in some situations.
Provide adequate ventilation in warehouse or closed storage area. 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:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min.)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 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 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.

Individual protection measures, such as personal protective equipment

Eye and face protection

- Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.
- Chemical goggles. Whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted. [AS/NZS 1337.1, EN166 or national equivalent]
- Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.
- Alternatively a gas mask may replace splash goggles and face shields.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

Skin protection

See Hand protection below

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Hands/feet protection	▸ Elbow length PVC gloves **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. ▸ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: · frequency and duration of contact, · chemical resistance of glove material, · glove thickness and · dexterity Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent). · When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. · When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. · Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. · Contaminated gloves should be replaced. As defined in ASTM F-739-96 in any application, gloves are rated as: · Excellent when breakthrough time > 480 min · Good when breakthrough time > 20 min · Fair when breakthrough time < 20 min · Poor when glove material degrades For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended. It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times. Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task. Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example: · Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of. · Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.
Body protection	See Other protection below
Other protection	▸ Overalls. ▸ PVC Apron. ▸ PVC protective suit may be required if exposure severe. ▸ Eyewash unit. ▸ Ensure there is ready access to a safety shower. ▸ Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity. ▸ For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets). ▸ Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot an shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.

Recommended material(s)

GLOVE SELECTION INDEX

Respiratory protection

Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.
Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS	-	A-PAPR-AUS / Class 1
up to 50 x ES	-	A-AUS / Class 1	-
up to 100 x ES	-	A-2	A-PAPR-2 ^

^ - Full-face
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge

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Glove selection is based on a modified presentation of the:
"Forsberg Clothing Performance Index".
The effect(s) of the following substance(s) are taken into account in the ***computer-generated*** selection:
ISN Organic - Rejuvenator Plus

Material	**CPI**
BUTYL	A
NEOPRENE	A
VITON	A
NATURAL RUBBER	C
NITRILE	C
PVA	C

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

respirators is considered appropriate.

- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Light yellow clear liquid; mixes with water.

Physical state	Liquid	**Relative density (Water = 1)**	1.25
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Applicable
pH (as supplied)	4-5	**Decomposition temperature (°C)**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	Not Applicable
Flash point (°C)	Not Applicable	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Applicable	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Applicable	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water	Miscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Unstable in the presence of incompatible materials. Product is considered stable under normal handling conditions. Prolonged exposure to heat. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

Continued...

Ingestion	Accidental ingestion of the material may be damaging to the health of the individual. Magnesium salts are generally absorbed so slowly that swallowing these cause few toxic effects, with purging being the most significant. If it cannot be removed (for example in bowel obstruction or paralysis), it may irritate the gut lining and be absorbed into the body. Side effects of magnesium salts include upset stomach, dry mouth, dry nose, dry throat, drowsiness, nausea, heartburn, and thickening of the lining of the throat and nose. The magnesium ion causes salt disturbances, central nervous system depression, involvement of the heart, loss of reflexes and death from paralysis of breathing; these effects, however, are rare without pre-existing kidney or bowel disorders. Early signs and symptoms of magnesium poisoning include nausea, vomiting, general unwellness and confusion. There may be low blood pressure due to dilation of blood vessels. A slow heart beat is common, which may eventually lead to stoppage of the heart. The substance and/or its metabolites may bind to haemoglobin inhibiting normal uptake of oxygen. This condition, known as "methaemoglobinemia", is a form of oxygen starvation (anoxia). Symptoms include cyanosis (a bluish discolouration skin and mucous membranes) and breathing difficulties. Symptoms may not be evident until several hours after exposure. At about 15% concentration of blood methaemoglobin there is observable cyanosis of the lips, nose and earlobes. Symptoms may be absent although euphoria, flushed face and headache are commonly experienced. At 25-40%, cyanosis is marked but little disability occurs other than that produced on physical exertion. At 40-60%, symptoms include weakness, dizziness, lightheadedness, increasingly severe headache, ataxia, rapid shallow respiration, drowsiness, nausea, vomiting, confusion, lethargy and stupor. Above 60% symptoms include dyspnea, respiratory depression, tachycardia or bradycardia, and convulsions. Levels exceeding 70% may be fatal. Ingestion or skin absorption of boric acid causes nausea, abdominal pain, diarrhoea and profuse vomiting which may be blood stained, headache, weakness, reddened lesions on the skin. In severe cases, it may cause shock, with fall in blood pressure, increase in heart rate, blue skin colour, brain and nervous irritation, reduced urine volume or even absence of urine. Borate poisoning causes nausea, vomiting, diarrhoea and pain in the upper abdomen. Often persistent vomiting occurs, and there may be blood in the faeces.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. Boric acid is not absorbed via intact skin but absorbed on broken or inflamed skin.
Eye	This material can cause eye irritation and damage in some persons.
Chronic	Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. Ample evidence exists from experimentation that reduced human fertility is directly caused by exposure to the material. Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material. Based on experience with animal studies, exposure to the material may result in toxic effects to the development of the foetus, at levels which do not cause significant toxic effects to the mother. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. In a case of chronic abuse of magnesium citrate, symptoms seen included tiredness and severe low blood pressure which did not respond to treatment. Blood tests revealed extremely high levels of magnesium, and the patient was found to have a perforated ulcer of the duodenum. Kidney failure and death followed. A patient with normal kidney function developed stoppage of breathing and slow heart rate after receiving 90 grams of magnesium sulfate over 18 hours. Animal testing suggests that magnesium sulfate may reduce both fertility and the weight of offspring. Chronic boric acid poisoning is characterized by mild gastrointestinal irritation, loss of appetite, disturbed digestion, nausea, possibly vomiting and a hard irregular and discoloured rash. Dryness of skin, reddening of tongue, loss of hair, inflammation of conjunctiva, and kidney injury have also been reported. Borate can accumulate in the testes and deplete germ cells and cause withering of the testicles, according to animal testing. Hair loss, skin inflammation, stomach ulcer and anaemia can all occur.

	TOXICITY	IRRITATION
ISN Organic - Rejuvenator Plus	Not Available	Not Available
calcium nitrate	dermal (rat) LD50: >2000 mg/kg[1]	Eye (rabbit): 500 mg/24 h - SEVERE
	Oral (Rat) LD50: >300<2000 mg/kg[1]	Skin (rabbit): 500 mg/24 h moderate
magnesium nitrate	Oral (Rat) LD50: 5440 mg/kg[2]	Eye (rabbit): 500 mg/24h - mild
		Skin (rabbit): 500 mg/24h - mild
EDTA iron sodium salt	dermal (rat) LD50: >2000 mg/kg[1]	Not Available
	Inhalation(Rat) LC50: >2.75 mg/l4h[1]	
	Oral (Rat) LD50: >2000 mg/kg[1]	
boric acid	Dermal (rabbit) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
	Inhalation(Rat) LC50: >2.12 mg/l4h[1]	Skin (human): 15 mg/3d -I- mild
	Oral (Rat) LD50: >2600 mg/kg[1]	Skin: no adverse effect observed (not irritating)[1]
sodium molybdate	dermal (rat) LD50: >2000 mg/kg[1]	Not Available

Continued...

	Inhalation(Rat) LC50: >1.93 mg/l4h[1]	
	Oral (Dog) LD50; 250 mg/kg[2]	
EDTA disodium zinc salt	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >2000 mg/kg[1]	Not Available
	Inhalation(Rat) LC50: >2.75 mg/l4h[1]	
	Oral (Rat) LD50: >=2000 mg/kg[1]	

Legend:	*1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*

MAGNESIUM NITRATE	Magnesium nitrate heaxahydrate is a methaemoglobin-forming agent which if inhaled or ingested in high enough concentrations may cause fatigue, headache, dizziness. (Source: I.L.O. Encyclopaedia) The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
EDTA DISODIUM ZINC SALT	No significant acute toxicological data identified in literature search.
MAGNESIUM NITRATE & BORIC ACID	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
EDTA IRON SODIUM SALT & EDTA DISODIUM ZINC SALT	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested. For ethylendiaminetetraacetic acid (EDTA) and its salts: EDTA is a strong organic acid, with a high affinity for alkaline-earth ions (for example, calcium and magnesium) and heavy-metal ions (such as lad and mercury), resulting in highly stable chelate complexes. The ability of EDTA to complex is used commercially to either promote or inhibit chemical reactions, depending on application. EDTA and its salts are expected to be absorbed by the lungs and the gastrointestinal tract; absorption through skin is unlikely. They cause mild skin irritation, and severe eye irritation. The greatest risk in the human body will occur when the EDTA attempts to scavenge the trace metals used and required by the body. The binding of divalent and trivalent cations by EDTA can cause mineral deficiencies, such as zinc deficiency. These appear to be responsible for all of the known pharmacological effects. EDTA and its salts are mostly eliminated through the urine, with 5% eliminated via the bile, along with the metal ions which are bound to it. Trisodium EDTA has not been found to cause cancer. EDTA and its salts are not likely to cause harm to children and infants at levels likely to be encountered.
EDTA IRON SODIUM SALT & SODIUM MOLYBDATE	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.

Acute Toxicity	✗	**Carcinogenicity**	✗
Skin Irritation/Corrosion	✓	**Reproductivity**	✓
Serious Eye Damage/Irritation	✓	**STOT - Single Exposure**	✗
Respiratory or Skin sensitisation	✓	**STOT - Repeated Exposure**	✗
Mutagenicity	✗	**Aspiration Hazard**	✗

Legend: ✗ *– Data either not available or does not fill the criteria for classification*
✓ *– Data available to make classification*

SECTION 12 Ecological information

Toxicity

	Endpoint	Test Duration (hr)	Species	Value	Source
ISN Organic - Rejuvenator Plus	Not Available	Not Available	Not Available	Not Available	Not Available
calcium nitrate	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**	**Source**
	EC50	48h	Crustacea	56.06-77.14mg/l	4
	NOEC(ECx)	168h	Crustacea	<2.2mg/l	4
	LC50	96h	Fish	>100mg/l	2
magnesium nitrate	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**	**Source**
	EC50(ECx)	24h	Crustacea	6075mg/L	5

Continued...

EDTA iron sodium salt

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	48h	Crustacea	100.9mg/l	2
EC50	72h	Algae or other aquatic plants	>100mg/l	2
EC50(ECx)	24h	Crustacea	16mg/l	2
LC50	96h	Fish	>100mg/l	2

boric acid

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	96h	Algae or other aquatic plants	15.4mg/l	2
BCF	672h	Fish	<3.2	7
EC50	48h	Crustacea	230mg/L	5
EC50	72h	Algae or other aquatic plants	40.2mg/l	2
NOEC(ECx)	576h	Fish	0.001mg/L	5
LC50	96h	Fish	70-80mg/l	4

sodium molybdate

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	48h	Crustacea	34.13-46.87mg/l	4
EC50	72h	Algae or other aquatic plants	26mg/l	2
NOEC(ECx)	672h	Crustacea	0.67mg/l	2
LC50	96h	Fish	>79.8mg/l	4

EDTA disodium zinc salt

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	48h	Crustacea	100.9mg/l	2
EC50	72h	Algae or other aquatic plants	2.77mg/l	2
NOEC(ECx)	72h	Algae or other aquatic plants	0.39mg/l	2
LC50	96h	Fish	41mg/l	2

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
EDTA iron sodium salt	HIGH	HIGH
boric acid	LOW	LOW
sodium molybdate	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
EDTA iron sodium salt	LOW (LogKOW = -10.4414)
boric acid	LOW (BCF = 0)
sodium molybdate	LOW (LogKOW = 2.229)

Mobility in soil

Ingredient	Mobility
EDTA iron sodium salt	LOW (KOC = 465.2)
boric acid	LOW (KOC = 35.04)
sodium molybdate	LOW (KOC = 48.64)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal

- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

Otherwise:

- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
- Where possible retain label warnings and SDS and observe all notices pertaining to the product.
- **DO NOT** allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.

For small quantities of oxidising agent:

- Cautiously acidify a 3% solution to pH 2 with sulfuric acid.
- Gradually add a 50% excess of sodium bisulfite solution with stirring.

Continued...

<table>
<tr><td></td><td>Add a further 10% sodium bisulfite.
If no further reaction occurs (as indicated by a rise in temperature) cautiously add more acid.</td></tr>
</table>

SECTION 14 Transport information

Labels Required

<table>
<tr><td></td><td></td></tr>
<tr><td>Marine Pollutant</td><td>NO</td></tr>
<tr><td>HAZCHEM</td><td>2Y</td></tr>
</table>

Land transport (ADG)

<table>
<tr><td>14.1. UN number or ID number</td><td>3139</td></tr>
<tr><td>14.2. UN proper shipping name</td><td>OXIDISING LIQUID, N.O.S. (contains calcium nitrate and magnesium nitrate)</td></tr>
<tr><td>14.3. Transport hazard class(es)</td><td><table><tr><td>Class</td><td>5.1</td></tr><tr><td>Subsidiary Hazard</td><td>Not Applicable</td></tr></table></td></tr>
<tr><td>14.4. Packing group</td><td>III</td></tr>
<tr><td>14.5. Environmental hazard</td><td>Not Applicable</td></tr>
<tr><td>14.6. Special precautions for user</td><td><table><tr><td>Special provisions</td><td>223 274</td></tr><tr><td>Limited quantity</td><td>5 L</td></tr></table></td></tr>
</table>

Air transport (ICAO-IATA / DGR)

<table>
<tr><td>14.1. UN number</td><td>3139</td></tr>
<tr><td>14.2. UN proper shipping name</td><td>Oxidizing liquid, n.o.s. * (contains calcium nitrate and magnesium nitrate)</td></tr>
<tr><td>14.3. Transport hazard class(es)</td><td><table><tr><td>ICAO/IATA Class</td><td>5.1</td></tr><tr><td>ICAO / IATA Subsidiary Hazard</td><td>Not Applicable</td></tr><tr><td>ERG Code</td><td>5L</td></tr></table></td></tr>
<tr><td>14.4. Packing group</td><td>III</td></tr>
<tr><td>14.5. Environmental hazard</td><td>Not Applicable</td></tr>
<tr><td>14.6. Special precautions for user</td><td><table><tr><td>Special provisions</td><td>A3 A803</td></tr><tr><td>Cargo Only Packing Instructions</td><td>555</td></tr><tr><td>Cargo Only Maximum Qty / Pack</td><td>30 L</td></tr><tr><td>Passenger and Cargo Packing Instructions</td><td>551</td></tr><tr><td>Passenger and Cargo Maximum Qty / Pack</td><td>2.5 L</td></tr><tr><td>Passenger and Cargo Limited Quantity Packing Instructions</td><td>Y541</td></tr><tr><td>Passenger and Cargo Limited Maximum Qty / Pack</td><td>1 L</td></tr></table></td></tr>
</table>

Sea transport (IMDG-Code / GGVSee)

<table>
<tr><td>14.1. UN number</td><td>3139</td></tr>
<tr><td>14.2. UN proper shipping name</td><td>OXIDIZING LIQUID, N.O.S. (contains calcium nitrate and magnesium nitrate)</td></tr>
<tr><td>14.3. Transport hazard class(es)</td><td><table><tr><td>IMDG Class</td><td>5.1</td></tr><tr><td>IMDG Subsidiary Hazard</td><td>Not Applicable</td></tr></table></td></tr>
<tr><td>14.4. Packing group</td><td>III</td></tr>
<tr><td>14.5 Environmental hazard</td><td>Not Applicable</td></tr>
<tr><td>14.6. Special precautions for user</td><td><table><tr><td>EMS Number</td><td>F-A , S-Q</td></tr><tr><td>Special provisions</td><td>223 274</td></tr><tr><td>Limited Quantities</td><td>5 L</td></tr></table></td></tr>
</table>

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Continued...

Product name	Group
calcium nitrate	Not Available
magnesium nitrate	Not Available
EDTA iron sodium salt	Not Available
boric acid	Not Available
sodium molybdate	Not Available
EDTA disodium zinc salt	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
calcium nitrate	Not Available
magnesium nitrate	Not Available
EDTA iron sodium salt	Not Available
boric acid	Not Available
sodium molybdate	Not Available
EDTA disodium zinc salt	Not Available

SECTION 15 Regulatory information

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

calcium nitrate is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2A: Probably carcinogenic to humans

magnesium nitrate is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2A: Probably carcinogenic to humans

EDTA iron sodium salt is found on the following regulatory lists

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australian Inventory of Industrial Chemicals (AIIC)

boric acid is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List

sodium molybdate is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

EDTA disodium zinc salt is found on the following regulatory lists

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
Australian Inventory of Industrial Chemicals (AIIC)

Additional Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (calcium nitrate; magnesium nitrate; EDTA iron sodium salt; boric acid; sodium molybdate; EDTA disodium zinc salt)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (EDTA iron sodium salt)
Korea - KECI	No (EDTA disodium zinc salt)
New Zealand - NZIoC	Yes
Philippines - PICCS	No (EDTA disodium zinc salt)
USA - TSCA	Yes

Continued...

National Inventory	**Status**
Taiwan - TCSI	Yes
Mexico - INSQ	No (EDTA disodium zinc salt)
Vietnam - NCI	Yes
Russia - FBEPH	No (EDTA disodium zinc salt)
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.*

SECTION 16 Other information

Revision Date	26/02/2024
Initial Date	01/02/2024

SDS Version Summary

Version	**Date of Update**	**Sections Updated**
2.1	01/02/2024	Toxicological information - Acute Health (eye), Toxicological information - Acute Health (inhaled), Toxicological information - Acute Health (skin), Toxicological information - Acute Health (swallowed), First Aid measures - Advice to Doctor, Toxicological information - Chronic Health, Hazards identification - Classification, Disposal considerations - Disposal, Exposure controls / personal protection - Engineering Control, Ecological Information - Environmental, Exposure controls / personal protection - Exposure Standard, Firefighting measures - Fire Fighter (extinguishing media), Firefighting measures - Fire Fighter (fire/explosion hazard), Firefighting measures - Fire Fighter (fire fighting), Firefighting measures - Fire Fighter (fire incompatibility), First Aid measures - First Aid (eye), First Aid measures - First Aid (inhaled), First Aid measures - First Aid (skin), First Aid measures - First Aid (swallowed), Handling and storage - Handling Procedure, Composition / information on ingredients - Ingredients, Stability and reactivity - Instability Condition, Exposure controls / personal protection - Personal Protection (other), Exposure controls / personal protection - Personal Protection (Respirator), Exposure controls / personal protection - Personal Protection (eye), Exposure controls / personal protection - Personal Protection (hands/feet), Accidental release measures - Spills (major), Accidental release measures - Spills (minor), Handling and storage - Storage (storage incompatibility), Handling and storage - Storage (storage requirement), Handling and storage - Storage (suitable container), Toxicological information - Toxicity and Irritation (Other), Transport information - Transport, Name
3.1	26/02/2024	Composition / information on ingredients - Ingredients

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

- PC－TWA: Permissible Concentration-Time Weighted Average
- PC－STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit。
- IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value
- BCF: BioConcentration Factors
- BEI: Biological Exposure Index
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration

- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
- ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

end of SDS