# Rowe Scientific Buffer pH 1.68 (0.05M Potassium Tetraoxalate) ROWE SCIENTIFIC

Chemwatch Hazard Alert Code: 0

Issue Date: 20/09/2023 Print Date: 06/10/2023 L.GHS.AUS.EN.E

Chemwatch: 18-5387
Version No: 7.1
Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

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

Pro	duct	lder	itifier

Product name	Rowe Scientific Buffer pH 1.68 (0.05M Potassium Tetraoxalate)		
Chemical Name	Not Applicable		
Synonyms	CB2593; CB2595		
Chemical formula	Not Applicable		
Other means of identification	Not Available		

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

Delevent identified uses	pH meter calibration.
Relevant identified uses	Use according to manufacturer's directions.

#### Details of the manufacturer or supplier of the safety data sheet

Registered company name	ROWE SCIENTIFIC		
Address	11 Challenge Boulevard Wangara WA 6065 Australia		
Telephone	+61 8 9302 1911		
Fax	+61 8 9302 1905		
Website	http://rowe.com.au/		
Email	rowewa@rowe.com.au		

#### **Emergency telephone number**

	goyg		
Association / 0	Organisation	ROWE SCIENTIFIC	
Emergeno	cy telephone numbers	+61 8 9302 1911 (24 Hrs)	
Other emergend	cy telephone numbers	Not Available	

# **SECTION 2 Hazards identification**

# Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification <sup>[1]</sup>	Not Applicable

# Label elements

Label clements			
Hazard pictogram(s)	Not Applicable		
Signal word	Not Applicable		

# Hazard statement(s)

Not Applicable

# Precautionary statement(s) Prevention

Not Applicable

# Precautionary statement(s) Response

Not Applicable

# Precautionary statement(s) Storage

Not Applicable

#### Precautionary statement(s) Disposal

Not Applicable

# **SECTION 3 Composition / information on ingredients**

# Substances

See section below for composition of Mixtures

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#### **Mixtures**

CAS No	%[weight]	Name	
127-96-8	<2	potassium tetraoxalate	
7732-18-5	>98	water	
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:  Wash out immediately with fresh 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.  Seek medical attention without delay; if pain persists or recurs seek medical attention.  Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs:  ▶ Flush skin and hair with running water (and soap if available).  ▶ Seek medical attention in event of irritation.
Inhalation	<ul> <li>If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>Other measures are usually unnecessary.</li> </ul>
Ingestion	<ul> <li>If swallowed do NOT induce vomiting.</li> <li>If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>Observe the patient carefully.</li> <li>Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>Seek medical advice.</li> </ul>

# Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

# **SECTION 5 Firefighting measures**

# **Extinguishing media**

- ▶ There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

# Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
Advice for firefighters	
Fire Fighting	<ul> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>Wear breathing apparatus plus protective gloves in the event of a fire.</li> <li>Prevent, by any means available, spillage from entering drains or water courses.</li> <li>Use fire fighting procedures suitable for surrounding area.</li> <li>DO NOT approach containers suspected to be hot.</li> <li>Cool fire exposed containers with water spray from a protected location.</li> <li>If safe to do so, remove containers from path of fire.</li> <li>Equipment should be thoroughly decontaminated after use.</li> </ul>
Fire/Explosion Hazard	<ul> <li>Non combustible.</li> <li>Not considered to be a significant fire risk.</li> <li>Expansion or decomposition on heating may lead to violent rupture of containers.</li> <li>Decomposes on heating and may produce toxic fumes of carbon monoxide (CO).</li> <li>May emit acrid smoke.</li> </ul> Decomposes on heating and produces toxic fumes of: carbon dioxide (CO2)
HAZCHEM	Not Applicable

# **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.
- Avoid breathing vapours and contact with skin and eyes.
- ▶ Control personal contact with the substance, by using protective equipment.
- ▶ Contain and absorb spill with sand, earth, inert material or vermiculite.

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 Wipe up. ▶ Place in a suitable, labelled container for waste disposal. Minor hazard. ▶ Clear area of personnel. Alert Fire Brigade and tell them location and nature of hazard. Control personal contact with the substance, by using protective equipment as required. Prevent spillage from entering drains or water ways. **Major Spills** ▶ Contain spill with sand, earth or vermiculite. ▶ Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal. Wash area and prevent runoff into drains or waterways 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 ▶ Limit all unnecessary personal contact. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. ▶ When handling **DO NOT** eat, drink or smoke. Safe handling Always wash hands with soap and water after handling. Avoid physical damage to containers. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Other information ▶ Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

#### Conditions for safe storage including any incompatibilities

Conditions for sale storage, including any incompatibilities			
Suitable container	<ul> <li>Glass container is suitable for laboratory quantities</li> <li>Polyethylene or polypropylene container.</li> <li>Packing as recommended by manufacturer.</li> <li>Check all containers are clearly labelled and free from leaks.</li> </ul>		
Storage incompatibility	None known		

# **SECTION 8 Exposure controls / personal protection**

# **Control parameters**

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

# **Emergency Limits**

Ingredient	TEEL-1	TEEL-2	TEEL-3
potassium tetraoxalate	2 mg/m3	22 mg/m3	130 mg/m3
potassium tetraoxalate	2 mg/m3	22 mg/m3	130 mg/m3

Ingredient	Original IDLH	Revised IDLH
potassium tetraoxalate	Not Available	Not Available
water	Not Available	Not Available

# Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
potassium tetraoxalate	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.	

# MATERIAL DATA

None assigned.

Exposure controls	
Appropriate engineering controls	General exhaust is adequate under normal operating conditions.
Individual protection measures, such as personal protective equipment	

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#### Eye and face protection

- Safety glasses with side shields; or as required.
- ► Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]
- 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

Wear general protective gloves, eg. light weight rubber gloves.

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

# Hands/feet protection

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

No special equipment needed when handling small quantities.

# OTHERWISE:

- Overalls.
- Barrier cream.
- Eyewash unit.

#### Recommended material(s)

# GLOVE SELECTION INDEX

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:

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Material	CPI
BUTYL	A
NEOPRENE	A
VITON	A
NATURAL RUBBER	С
PVA	С

\* 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.

#### Respiratory protection

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

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	-AUS / Class1 P2	-
up to 50	1000	-	-AUS / Class 1 P2
up to 50	5000	Airline *	-
up to 100	5000	-	-2 P2
up to 100	10000	-	-3 P2
100+			Airline**

\* - Continuous Flow \*\* - Continuous-flow or positive pressure demand 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 =

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Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

# **SECTION 9 Physical and chemical properties**

Information on basic physical a	ind chemical properties
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Appearance	Colourless, odourless liquid; mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	1.0 approx.
Odour	Not Available	Partition coefficient n- octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	100	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 Applicable

# **SECTION 10 Stability and reactivity**

Reactivity	See section 7
Chemical stability	<ul> <li>Unstable in the presence of incompatible materials.</li> <li>Product is considered stable.</li> <li>Hazardous polymerisation will not occur.</li> </ul>
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	Not normally a hazard due to non-volatile nature of product		
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.		
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.		
Еуе	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).		
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.		
Rowe Scientific Buffer pH	TOXICITY	IRRITATION	
1.68 (0.05M Potassium Tetraoxalate)	Not Available	Not Available	
	TOXICITY	IRRITATION	
potassium tetraoxalate	Dermal (rabbit) LD50: 20000 mg/kg <sup>[1]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>	
	Oral (Rat) LD50: 7500 mg/kg <sup>[1]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>	
water	TOXICITY	IRRITATION	

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Not Available Oral (Rat) LD50: >90000 mg/kg<sup>[2]</sup> 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise Legend: specified data extracted from RTECS - Register of Toxic Effect of chemical Substances POTASSIUM No significant acute toxicological data identified in literature search. TETRAOXALATE & WATER Carcinogenicity **Acute Toxicity** Skin Irritation/Corrosion Reproductivity Serious Eye STOT - Single Exposure × Damage/Irritation Respiratory or Skin × STOT - Repeated Exposure × sensitisation Mutagenicity **Aspiration Hazard** 

Legend:

X - Data either not available or does not fill the criteria for classification

– Data available to make classification

# **SECTION 12 Ecological information**

#### **Toxicity**

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	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	136.9mg/l	2
potassium tetraoxalate	LC50	96h	Fish	940mg/l	2
	EC50(ECx)	48h	Crustacea	136.9mg/l	2
water	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Legend:	Ecotox databa	,	HA Registered Substances - Ecotoxicologica Aquatic Hazard Assessment Data 6. NITE (J	, ,	

# DO NOT discharge into sewer or waterways.

# Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
water	LOW	LOW

# **Bioaccumulative potential**

Ingredient	Bioaccumulation
	No Data available for all ingredients
Mobility in soil	
Ingredient	Mobility

# SECTION 13 Disposal considerations

#### Waste treatment methods

waste treatment methods			
Product / Packaging disposal	<ul> <li>Recycle wherever possible or consult manufacturer for recycling options.</li> <li>Consult State Land Waste Management Authority for disposal.</li> <li>Bury residue in an authorised landfill.</li> <li>Recycle containers if possible, or dispose of in an authorised landfill.</li> </ul>		

# **SECTION 14 Transport information**

# **Labels Required**

Marine Pollutant	NO
HAZCHEM	Not Applicable

No Data available for all ingredients

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#### Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

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

Not Applicable

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

Product name	Group	
potassium tetraoxalate	Not Available	
water	Not Available	

#### 14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type	
potassium tetraoxalate	Not Available	
water	Not Available	

#### **SECTION 15 Regulatory information**

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

#### potassium tetraoxalate is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australian Inventory of Industrial Chemicals (AIIC)

#### water is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

# **National Inventory Status**

National Inventory	Status			
Australia - AIIC / Australia Non- Industrial Use	Yes			
Canada - DSL	Yes			
Canada - NDSL	No (water)			
China - IECSC	Yes			
Europe - EINEC / ELINCS / NLP	Yes			
Japan - ENCS	Yes			
Korea - KECI	Yes			
New Zealand - NZIoC	Yes			
Philippines - PICCS	Yes			
USA - TSCA	Yes			
Taiwan - TCSI	Yes			
Mexico - INSQ	Yes			
Vietnam - NCI	Yes			
Russia - FBEPH	Yes			
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	20/09/2023
Initial Date	15/12/2008

# **SDS Version Summary**

Version	Date of Update	Sections Updated
6.1	23/12/2022	Classification review due to GHS Revision change.
7.1	20/09/2023	Hazards identification - Classification, Identification of the substance / mixture and of the company / undertaking - Use

#### 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

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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

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

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