

Kolkata – 700 089, India.

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# Section 1 - Chemical Product and Company Identification

1.1 MSDS Name: Calcium Bis Glycinate

1.2 Product Code: CBG2025

1.3 Relevant uses and uses advised against (if any):

Laboratory Chemicals and Industrial Manufacturing

1.4 Company Identification:

WEST BENGAL CHEMICAL INDUSTRIES LIMITED

145/1, Jessore Road, Lake Town,

Kolkata – 700 089, India.

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# **Section 2 Hazards Identification**

# 2.1 GHS, Globally Harmonized System Classification in accordance with 29 CFR 1910 Classification according to Regulation (EC) No 1272/2008:

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

This substance is not classified as dangerous according to Directive 67/548/EEC.

2.2 Labeling according to GHS & Regulation (EC) No 1272/2008:

2.2.1 Hazard classification:

Acute Tox. 4 (100%)

STOT RE 2 (100%)

2.3 Signal:

Warning

#### 2.4 Hazard statements:

H302 (100%): Harmful if swallowed

H373 (100%): May causes damage to organs through prolonged or repeated exposure

2.5 Precautionary Statements:

#### Prevention:

P260: Avoid breathing dust/fume/gas/mist/vapors/spray.

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.

P262: Do not get in eyes, on skin, or on clothing.



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### **Section 2 Hazards Identification**

P264: Wash hands and exposed skin thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P281: Use personal protective equipment as required.

#### Response:

P301+P317: IF SWALLOWED: Get medical help.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P319: Get medical help if you feel unwell.

P330: Rinse mouth.

P337+P313: If eye irritation persists get medical advice/attention.

#### Disposal:

P501: Dispose of contents/container

#### 2.6 Potential Acute Health Effects:

Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

#### 2.7 Potential Chronic Health Effects:

2.7.1 Carcinogenic effects

Not available.

2.7.2 Mutagenic effects

Not available.



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### **Section 2 Hazards Identification**

2.7.3 Teratogenic effects

Not available.

2.7.4 Developmental effect

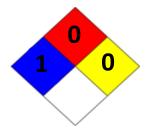
Not available.

2.7.5 Repeated or prolonged exposure is not known to aggravate medical condition.

### 2.8 Pictogram:



#### 2.9 NFPA SCALE:



NFPA SCALE (0-4)

#### 2.10 HMIS RATINGS:

Health	1
Flammability	0
Physical Hazard	0
Personal protection	E

HMIS RATINGS (0-4)

# **Section 3 - Composition / Information on Ingredients**

3.1 Chemical Name: Calcium Bis Glycinate

3.2 Synonym: Glycine, Calcium Salt (2:1); Calcium glycinate (1:2)

**3.3 CAS Number:** 35947-07-0 **3.4 EC Number:** 252-809-5

3.5 Molecular Formula: C<sub>4</sub>H<sub>8</sub>CaN<sub>2</sub>O<sub>4</sub>3.6 Molecular Weight: 188.20 g/mol



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**3.7 Content:** 20%- 25% w/w (as Calcium)

### **Section 4 - First Aid Measures**

#### 4.1 Description of first aid measures:

#### 4.1.1 Inhalation

Move exposed person to fresh air. If not breathing, seek immediate medical attention. If breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel and seek medical attention.

#### 4.1.2 Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek medical attention.

#### 4.1.3 Skin Contact

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases, and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing & Shoes before reusing.

#### 4.1.4 Eye Contact

Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek immediate medical attention.

### 4.2 Most important symptoms and effects, both acute and delayed:

See Section 11.

#### 4.3. Indication of any immediate medical attention and special treatment needed:

Treat symptomatically.

# **Section 5 - Fire-Fighting Measures**

# **5.1 Flammability of the Product:**

May be combustible at high temperature.

#### 5.2 Fire Extinguishing Media:

In case of fire, use carbon dioxide, water spray, dry chemical powder or appropriate foam.

#### **5.3 Auto-Ignition Temperature:**

Not available.

#### 5.4 Flash Points:

Not available.

#### 5.5 Flammable Limits:



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# **Section 5 - Fire-Fighting Measures**

These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...). Some metallic oxides.

#### 5.6 Products of Combustion:

Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.

#### 5.7 Fire Hazards in Presence of Various Substances:

Slightly explosive in presence of open flames and sparks. Non-explosive in presence of shocks.

#### **5.8 Fire Fighting Media and Instructions:**

5.8.1 Small fire: Use DRY chemical powder.

5.8.2 Large fire: Use water spray, fog or foam. Do not use water jet.

#### 5.9 Special Remarks on Fire Hazards:

Fire is possible at elevated temperatures.

#### **5.10 Special Remarks on Explosion Hazards:**

Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.

#### **5.11** Advice for firefighters:

#### 5.11.1 Fire Fighting

Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water courses. Use firefighting procedures suitable for surrounding area. 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. Equipment should be thoroughly decontaminated after use.

5.11.2 Fire/Explosion Hazard

Noncombustible. Not considered a significant fire risk, however containers may burn.

#### **Section 6 - Accidental Release Measures**

# 6.1 Personal precautions, protective equipment, and emergency procedures:

Avoid breathing dust/fumes/gas/mist/vapors/spray. Use individual protective equipment (waterproof boots, suitable protective clothing, safety glasses, etc). Restrict unprotected personnel from the area. Prevent any contact with hot surfaces. Do not approach facing the wind. Do not touch the spilled material.

#### **6.2 Environmental precautions:**

Do not let the product enter drains, soil or water sources.

#### 6.3 Methods and materials used for containment cleanup procedures and Storage:

6.3.1 Spill control and recovery:



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### Section 6 - Accidental Release Measures

Wear appropriate personal protective equipment as specified in Section 8. Clean up spills in a manner that does not disperse dust into the air. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

### 6.3.2 Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to legal requirements.

#### 6.3.3 Large Spill:

Contain spilled material. Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to legal requirements.

#### 6.4 Disposal:

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

# **Section 7 - Handling and Storage**

#### 7.1 Precautions for safe handling:

Apply according to good manufacturing and industrial hygiene practices. Ensure proper ventilation. Wash thoroughly after handling. Do not drink, eat, or smoke while handling. Avoid contact with skin, eyes, and clothing. Minimize dust generation. Avoid breathing dust/fumes/gas/mist/vapors/spray. Avoid contact with eyes. Avoid breathing dust. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.

#### 7.2 Conditions for safe storage, including any incompatibilities:

Store in accordance with local regulations. Store in original container, protected from direct sunlight. Keep container tightly closed and sealed until ready for use.

# **Section 8 - Exposure Controls / Personal Protection**

#### 8.1 Engineering Controls:

8.1.1 Engineering controls protect workers by removing hazards or creating barriers. Types include: Process controls: Change job/process to reduce risk.

Enclosure/Isolation: Physically separate hazard from worker.



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# **Section 8 - Exposure Controls / Personal Protection**

Ventilation: Adds/removes air to dilute/remove contaminants. Design must match process/contaminant. Multiple controls may be needed.

8.1.2 Local exhaust ventilation is required for handling solid powders/crystals. If insufficient, use respiratory protection:

Particle dust respirators (possibly with absorption cartridge)

Filter respirators (with appropriate cartridge/canister)

Fresh-air hoods/masks

8.1.3 Air contaminant "escape" velocity determines required "capture" velocity of ventilation.

Type of Contaminant	Air Speed
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 ft/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 ft/min)

#### 8.1.4 Air speed within each range depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favorable 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

#### 8.2 Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

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



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# **Section 8 - Exposure Controls / Personal Protection**









### 8.3.1 Eye and face protection

Use safety glasses with side shields, chemical goggles. Contact lens can also be used. Medical/first-aid personnel must be trained in lens removal, with equipment readily available. In chemical exposure immediately irrigate eyes. Remove lenses at first signs of redness/irritation, only in a clean environment after thorough handwashing. (CDC NIOSH Current Intelligence Bulletin 59, AS/NZS 1336 or equivalent).

### 8.3.2 Hands/feet protection

Glove selection depends on usage. Key factors include:

- Contact frequency/duration
- Chemical resistance
- Glove thickness
- Dexterity

Use gloves tested to relevant standards (e.g., EN 374, F739, AS/NZS 2161.1).

- Prolonged/frequent contact: Class 5+ (breakthrough time >240 min).
- Brief contact: Class 3+ (breakthrough time >60 min).

Consider polymer flexibility for long-term use. Replace contaminated gloves.

Glove ratings (ASTM F-739-96):

Excellent: >480 min

Good: >20 minFair: <20 min</li>

Poor: Material degrades

General use: >0.35 mm thickness recommended. Thickness isn't the sole indicator of chemical resistance; permeation depends on material. Check manufacturer data.

#### Thickness varies by task:

- Thin (<0.1 mm): High dexterity, short-term, single-use.
- Thick (>3 mm): Mechanical/chemical risks (abrasion/puncture).



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# Section 8 - Exposure Controls / Personal Protection

Wear gloves on clean, dry hands. Wash and dry hands after use; apply moisturizer. Suitable polymers for dry, solid, non-abrasive materials: polychloroprene, nitrile rubber, butyl rubber, fluorocaoutchouc, polyvinyl chloride. Inspect gloves regularly for wear/degradation.

8.3.3 Personal Respirators (NIOSH Approved)

Standards: AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 (or equivalent)

**Filter Type:** P (sufficient capacity)

Selection based on Required Minimum Protection Factor (RMPF) relative to Exposure Standard (ES):

RMPF	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
Up to 10x ES	P1 / Air-line*	-	PAPR-P1
Up to 50x ES	Air-line*	P2	PAPR-P2
Up to 100x ES	-	Р3	-
100+ x ES	-	Air-line* / Air-line**	PAPR-P3

<sup>\*</sup>Negative pressure demand \*\*Continuous flow

#### **Key Considerations:**

- Respirators are used when other controls are insufficient.
- Professional judgment (toxicity, exposure data, likelihood) is crucial for selection.
- Avoid high thermal loads/heat stress.
- Occupational exposure limits (government/vendor) guide adequacy.
- Certified, fit-tested respirators protect from particulates.
- N95 (US) / P1 (EU) masks for nuisance dusts.
- Approved positive flow mask for significant airborne dust.
- Minimize dust generation.

#### 8.3.4 Skin Protection:

Wear protective gloves and clean body-covering clothing.

#### 8.3.5 Eye Protection:

Use chemical safety goggles and/or full-face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

### 8.4 Personal Protection in Case of a Large Spill:



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# **Section 8 - Exposure Controls / Personal Protection**

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

#### 8.5 Exposure Limits:

Not available.

# **Section 9 - Physical and Chemical Properties**

Appearance : Free flowing powder Color : White to off-white

Odour : Odorless.

Odor threshold : No data available

**pH** : 6.0 – 9.0

Relative density : No data available
Melting point/freezing point : No data available
Initial boiling point and boiling range : No data available
Flash point : No data available
Auto implies to respect to the second state of t

**Auto-ignition temperature** No data available **Upper/lower flammability or explosive limits** No data available **Evaporation rate** No data available Flammability (solid, gas) No data available Vapour pressure No data available Vapour density No data available Solubility No data available **Decomposition temperature** No data available

Other safety information

No data available

Viscosity

# **Section 10 - Stability and Reactivity**

No data available

#### 10.1 Stability:

Stable under ordinary storage conditions.

#### 10.2 Conditions of Instability:

Excess heat, excess dust generation, oxidizing agents, incompatible materials

#### **10.3 Hazardous Decomposition Products:**

At higher temperatures, substance decomposes into Calcium oxide and Nitrogen oxides, Carbon dioxide and Carbon monoxide and fumes.



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# **Section 10 - Stability and Reactivity**

### 10.4 Incompatibility with various substances:

Reactive with acids and oxidizing agents

10.5 Corrosivity:

Not available.

#### 10.6 Special Remarks on reactivity:

Incompatible with strong mineral acids, and strong organic acids.

#### 10.7 Polymerization:

Will not occur

# **Section 11 - Toxicological Information**

#### 11.1 RTECS Reference:

No data available

#### 11.2 Acute Toxicity:

No data available

#### 11.3 Skin Corrosion/Irritation:

Non-irritating to skin under normal use conditions. Prolonged exposure may cause mild irritation for sensitive individuals.

#### 11.4 Serious Eye Damage/Irritation:

Dust or particles may cause mechanical irritation to eyes. Rinse eyes thoroughly if exposed.

#### 11.5 Respiratory or Skin Sensitization:

Not known to cause respiratory or skin sensitization. Dust exposure may cause mild irritation in sensitive individuals.

#### 11.6 Germ Cell Mutagenicity:

No mutagenic effects reported based on available data.

#### 11.7 Carcinogenicity:

Not listed as a carcinogen by IARC, NTP, OSHA, or EU regulations.

#### 11.8 Reproductive Toxicity:

No evidence of reproductive toxicity. Calcium and glycine are essential nutrients with no known adverse effects at normal exposure levels.

#### 11.9 STOT (Specific Target Organ Toxicity) - Single Exposure:

No known target organ effects after single exposure.

#### 11.10 STOT - Repeated Exposure:

No data available indicating repeated exposure would cause systemic organ toxicity.



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# **Section 11 - Toxicological Information**

#### 11.11 Aspiration Hazard:

Not considered an aspiration hazard. However, accidental inhalation of dust should be avoided to prevent respiratory irritation.

# **Section 12 - Ecological Information**

#### 12.1 Toxicity:

Calcium Bisglycinate is not expected to be toxic to aquatic or terrestrial organisms under normal use conditions.

#### 12.2 Persistence and Degradability:

The substance is expected to be readily biodegradable due to its organic nature and components (calcium and glycine). In soil and water, it is likely to undergo natural degradation processes, reducing environmental persistence.

#### 12.3 Bioaccumulative Potential:

Calcium Bisglycinate has a low potential for bioaccumulation as both calcium and glycine are essential nutrients that are naturally metabolized by living organisms.

### 12.4 Mobility in Soil:

Highly soluble in water; it is expected to exhibit high mobility in soil and groundwater. However, due to its low toxicity and biodegradability, the environmental impact is minimal.

#### 12.5 Results of PBT and vPvB Assessment:

Calcium Bisglycinate is not considered to be a PBT (Persistent, Bioaccumulative, and Toxic) or vPvB (very Persistent and very Bioaccumulative) substance based on available data.

#### 12.6 Other Adverse Effects:

- 12.6.1 Ozone Depletion Potential: None.
- 12.6.2 Global Warming Potential: Negligible.
- 12.6.3 Endocrine Disruption: No evidence of endocrine-disrupting effects.
- 12.6.4 Effect on Wastewater Treatment: No adverse effects are expected on wastewater treatment plants

# **Section 13 - Disposal Considerations**

Disposal methods: Refer to local government authority for disposal recommendation.

# **Section 14 - Transport Information**

#### 14.1 UN Number:

Not classified as hazardous for transport. No UN number assigned.

#### 14.2 UN Proper Shipping Name:

Not applicable. The product is not regulated for transport under international shipping guidelines.



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# **Section 14 - Transport Information**

#### 14.3 Transport Hazard Class(es):

Not classified as a hazardous material for transport under ADR, RID, IMDG, or IATA regulations.

#### 14.4 Packing Group:

Not applicable. No packing group is assigned as the substance is non-hazardous.

#### 14.5 Environmental Hazards: Marine Pollutant:

No. The product is not considered harmful to the environment during transportation.

#### **14.6 Special Precautions for User:**

Ensure containers are securely sealed and labeled during transport to prevent accidental spills. Avoid transporting with incompatible materials, such as strong acids or bases, to prevent chemical reactions. Handle with care to avoid damage to packaging.

#### 14.7 Transport in Bulk According to Annex II of MARPOL and the IBC Code:

Not applicable. Calcium Bisglycinate is not subject to transport in bulk under Annex II of MARPOL or the IBC Code.

#### 14.8 Additional Information

Road Transport (ADR/RID): Not restricted.

**Sea Transport (IMDG)**: Not restricted. **Air Transport (IATA)**: Not restricted.

**Rail Transport**: Not restricted.

# **Section 15 - Regulatory Information**

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

15.1.1 Calcium Bisglycinate is found on the following regulatory lists

Not Applicable

15.1.2 Additional Regulatory Information

Not Applicable

15.1.3 This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable: Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

15.1.4 Information according to 2012/18/EU (Seveso III):

15.1.5 Seveso Category: Not Available

#### 15.2. Chemical safety assessment:

For further information please look at the Chemical Safety Assessment and Exposure Scenarios prepared by your Supply Chain if available.



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#### 15.2.1 National Inventory Status

National Inventory	Status
Australia - AIC / Australia Non-Industrial Use	No (Calcium Bisglycinate)
Canada - DSL	No (Calcium Bisglycinate)
Canada - NDSL	No (Calcium Bisglycinate)
China - IECSC	No (Calcium Bisglycinate)
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (Calcium Bisglycinate)
Korea - KECl	No (Calcium Bisglycinate)
New Zealand - NZIoC	No (Calcium Bisglycinate)
Philippines - PICCS	No (Calcium Bisglycinate)
USA - TSCA	No (Calcium Bisglycinate)
Taiwan - TCSI	Yes
Mexico - INSQ	No (Calcium Bisglycinate)
Vietnam - NCI	No (Calcium Bisglycinate)
Russia - FBEPH	No (Calcium Bisglycinate)

#### 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**

Disclaimer:

This material safety data sheet is provided as an information resource only. WEST BENGAL CHEMICAL INDUSTRIES LIMITED believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with federal, state, and local regulations.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average PC—STEL: Permissible Concentration-Short Term Exposure Limit



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### **Section 16 - Other Information**

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

MARPOL: International Convention for the Prevention of Pollution from Ships

IMSBC: International Maritime Solid Bulk Cargoes Code

IGC: International Gas Carrier Code IBC: International Bulk Chemical Code

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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