Safety Data Sheet

For INDIA, According to GHS (Rev. 8)

TOLYLTRIAZOLE GRANULES

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SECTION 1: IDENTIFICATION

1.1 GHS Product identifier:

TOLYLTRIAZOLE
Methylbenzotriazole; TTA; 4(5)-Methyl-1H-benzotriazole
CAS: 29385-43-1

Other means of identification:

Not relevant

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses: corrosion inhibitor for copper, brass and other yellow metals in closed-loop cooling water, hydraulic fluids, antifreeze/coolant formulations and metalworking fluids. For industrial/commercial user only.

Uses advised against: All uses not specified in this section or in section 7.3.

1.3 Supplier's details:

SURAJ CHEMICALS
No 92, Govindappa Naicken Street, Shiva Complex, Chennai – 600001, Tamil Nadu, India
Tel: +91 - 7092722822, +91 - 9840284032 / +91 - 44 - 25393652, 42130281
Email: sales@surajchemicals.com | Website: www.surajchemicals.com
GST No: 33ACEPV8190L1ZZ

1.4 Emergency phone number:

Emergency Contact No: +91 - 7092722822, +91 - 9840284032

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Acute Tox. 4	Acute oral toxicity, Category 4, H302
Skin Irrit. 2	Skin irritation, Category 2, H315
Eye Dam. 1	Serious eye damage, Category 1, H318
Skin Sens. 1	Skin sensitisation, Category 1, H317
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic hazard, Category 2, H411

2.2 GHS label elements, including precautionary statements:

GHS: Danger

Hazard statements:

H302 – Harmful if swallowed.
H315 – Causes skin irritation.
H317 – May cause an allergic skin reaction.
H318 – Causes serious eye damage.
H411 – Toxic to aquatic life with long lasting effects.

Precautionary statements:

P261: Avoid breathing dust.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
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.
P310: Immediately call a POISON CENTER/doctor.
P333+P313: If skin irritation or rash occurs: Get medical advice/attention.
P362+P364: Take off contaminated clothing and wash it before reuse.
P391: Collect spillage.
P501: Dispose of the contents/containers to a licensed hazardous waste contractor.

2.3 Other hazards which do not result in classification:

Technical-grade tolyltriazole is typically a mixture of the 4- and 5-methyl isomers; hazard profile is closely related to that of benzotriazole (see section 16).

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances:

Chemical description: Tolyltriazole (mixed 4-/5-methyl-1H-benzotriazole isomers)

In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 29385-43-1	Tolyltriazole (mixed 4-/5-methyl-1H-benzotriazole isomers) — Acute Tox. 4: H302; Skin Irrit. 2: H315; Eye Dam. 1: H318; Skin Sens. 1: H317; Aquatic Chronic 2: H411 – Danger	≥98% (technical granule grade)

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16. Technical grade is an isomer mixture; exact isomer ratio is proprietary to the manufacturer and available on request.

3.2 Mixtures:

Non-applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of necessary first-aid measures:

Request medical assistance immediately, showing the SDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide fresh air and keep at rest. Seek medical attention if discomfort continues.

By skin contact:

Remove contaminated clothing. Wash affected skin thoroughly with plenty of water and soap. Seek medical attention if irritation persists.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Seek immediate medical attention (H318).

By ingestion/aspiration:

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention immediately.

4.2 Most important symptoms/effects, acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Not relevant

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:

Suitable: Water spray/fog, dry chemical powder, foam, carbon dioxide
Unsuitable: High-pressure water jet (may spread dust)

5.2 Specific hazards arising from the chemical:

Combustible organic solid. Fine dust may form combustible dust/air mixtures. Thermal decomposition may release oxides of nitrogen and carbon.

5.3 Special protective actions for fire-fighters:

Wear self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water spray from a safe distance.

Additional provisions:

Use water spray to cool fire-exposed containers. Prevent fire-fighting water from entering drains or watercourses. Approach the fire from upwind where possible.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Isolate leaks provided there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (see section 8). Evacuate the area and keep out those who do not have protection.

For emergency responders:

Wear protective equipment. Keep unprotected persons away. See section 8.

6.2 Environmental precautions:

Prevent product from entering drains, watercourses or soil (Aquatic Chronic 2). Notify the relevant authority in case of significant environmental release.

6.3 Methods and materials for containment and cleaning up:

Sweep or vacuum up dry granules avoiding dust generation; collect in suitable, labelled containers for disposal or recovery.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A. General precautions for safe use:

Avoid generating and inhaling dust. Avoid contact with skin and eyes. Provide adequate local/general ventilation.

B. Technical recommendations for the prevention of fires and explosions:

Keep away from ignition sources and strong oxidising agents. Control dust accumulation; use non-sparking tools and bond/ground equipment where bulk material is handled.

C. Technical recommendations on general occupational hygiene:

Do not eat, drink or smoke while handling. Wash hands and exposed skin thoroughly after use and before breaks.

D. Technical recommendations to prevent environmental risks:

Prevent release to drains, watercourses and soil.

7.2 Conditions for safe storage, including any incompatibilities:

A. Specific storage requirements:

Minimum Temp.	5°C
Maximum Temp.	30°C
Maximum time	24 Months

B. General conditions for storage:

Store in a cool, dry, well-ventilated place in tightly closed original containers, away from strong oxidising agents and strong acids/bases. For additional information see subsection 10.5.

7.3 Specific end use(s):

Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:

No specific occupational exposure limit has been established for this substance under Indian or internationally harmonized OEL lists currently referenced. Apply general dust/mist limits (e.g., 10 mg/m³ total inhalable / 3-5 mg/m³ respirable, as applicable) as good industrial hygiene practice.

8.2 Appropriate engineering controls:

It is recommended to use localized extraction in the work area as a collective protection measure to avoid exceeding occupational exposure limits, in addition to individual protective equipment (PPE) as needed. Consult the manufacturer's information leaflet for storage, use, cleaning and maintenance of PPE.

B. Respiratory protection:

Not normally required with adequate ventilation. Where dust levels are elevated, use a particulate filter respirator (FFP2/P2 type).

C. Specific protection for the hands:

Chemical-resistant gloves (nitrile or PVC); replace at first sign of damage.

D. Eye and face protection:

Safety goggles or glasses with side shields (H318 – serious eye damage hazard).

E. Bodily protection:

Standard chemical-resistant work clothing appropriate to the task.

F. Additional emergency measures:

Emergency shower (ANSI Z358-1, ISO 3864-1:2011, ISO 3864-4:2011) and eyewash stations (DIN 12 899, ISO 3864-1:2011, ISO 3864-4:2011) should be available.

Environmental exposure controls:

Avoid environmental spillage of both the product and its container. See subsection 7.1.D.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance	
Physical state at 20°C	Solid (granules/flakes)
Appearance	Granular solid
Color	White to light tan
Odor	Faint, characteristic
Odour threshold	Not established
Volatility	
Boiling point at atmospheric pressure	Decomposes before boiling at atmospheric pressure
Vapour pressure at 20°C	Very low (negligible at room temperature)
Evaporation rate at 20°C	Not relevant (solid)
Product Description	
Density / Relative density at 20°C	~1.3 g/cm³ (literature, isomer mixture)
Dynamic / Kinematic viscosity	Not applicable (solid)
Concentration	See section 3
pH	Mildly acidic in aqueous solution; exact value not standardized for this grade
Vapour density at 20°C	Not relevant (solid)
Partition coefficient n-octanol/water (log Pow)	Available on request
Solubility in water at 20°C	Slightly soluble
Decomposition temperature	>200°C
Melting point/freezing point	~75–90°C (isomer-mixture range, literature)
Flammability	
Flash Point	Non-applicable (solid)
Flammability (solid, gas)	Combustible solid; dust may be combustible
Autoignition temperature	Not established
Lower / Upper flammability limit	Not relevant (solid, not gas/vapor)
Particle Characteristics	
Median equivalent diameter	Available on request (grade dependent)

** Not relevant due to the nature of the product, not providing information on the properties of its hazards.*

9.2 Other information:

Explosive properties	Not relevant (non-explosive)
Oxidising properties	Non-oxidising
Corrosive to metals	Not corrosive to common metals (protects copper/brass by design)
Heat of combustion	Not established
Surface tension at 20°C	Not relevant (solid)
Refraction index	Not relevant (solid)

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

Stable under normal conditions of storage and use. May react with strong oxidising agents.

10.2 Chemical stability:

Chemically stable under the recommended storage conditions.

10.3 Possibility of hazardous reactions:

Under normal conditions of use, hazardous reactions are not expected. Contact with strong oxidisers may lead to an exothermic reaction.

10.4 Conditions to avoid:

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Not applicable	Avoid prolonged heating above decomposition temperature	Stable	Avoid prolonged exposure to moisture

10.5 Incompatible materials:

Strong Oxidising Agents	Strong Acids	Strong Bases
Avoid contact	Avoid contact	Avoid contact

10.6 Hazardous decomposition products:

Thermal decomposition may release oxides of nitrogen (NOx) and carbon (CO, CO2).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:

A. Ingestion (acute effect):

May cause gastrointestinal irritation, nausea and vomiting if swallowed in quantity (Acute Tox. 4, H302).

B. Inhalation (acute effect):

Dust may cause irritation of the nose, throat and respiratory tract.

C. Contact with skin and eyes (acute effect):

Causes skin irritation (H315) and may cause an allergic skin reaction (H317, sensitiser). Causes serious eye damage (H318).

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity):

Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data. IARC: Not listed.

E. Sensitizing effects:

Classified as a skin sensitiser, Category 1 (H317), based on available data.

F. Specific target organ toxicity (STOT) – single exposure:

Not classified for STOT-SE based on available data.

G. Specific target organ toxicity (STOT) – repeated exposure:

Classification criteria are not met based on available data.

H. Aspiration hazard:

Not relevant (solid product).

Product-specific toxicological information:

Identification	Acute Toxicity	Genus
Tolyltriazole CAS: 29385-43-1	LD50 oral: Available on request (not standardized across isomer-mixture grades; structurally analogous to benzotriazole, Category 4)	Rat

SECTION 12: ECOLOGICAL INFORMATION

Toxic to aquatic life with long lasting effects (Aquatic Chronic 2, H411).

12.1 Toxicity:

Identification	Acute/Chronic Toxicity	Genus
Tolyltriazole CAS: 29385-43-1	Available on request (specific LC50/EC50 endpoints not standardized across suppliers/grades; classification per section 2 applies)	Fish / Crustacean

12.2 Persistence and degradability:

Structurally related triazole corrosion inhibitors are generally reported as poorly biodegradable; specific study data not established for this grade.

12.3 Bioaccumulative potential:

Not established for this grade.

12.4 Mobility in soil:

Koc	Henry	Dry Soil	Moist Soil
Not established	Low	Moderate mobility (moderately water soluble)	Moderate mobility

12.5 Results of PBT and vPvB assessment:

Not formally assessed against PBT/vPvB criteria for this product.

12.6 Other adverse effects:

Toxic to aquatic organisms; avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

Do not discharge to drains, watercourses or soil. Collect and, where possible, recover for reuse. Dispose of via a licensed hazardous/chemical waste contractor in suitable, labelled, closed containers. Empty containers may retain product residue and should be handled and disposed of with the same precautions as the product.

Refer to national and local regulations on waste management (Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016, as amended).

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023):

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not classified as dangerous goods for transport based on available hazard data
14.3 Transport hazard class(es)	–
14.4 Packing group	–
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG 41-22):

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not classified as dangerous goods for transport based on available hazard data
14.3 Transport hazard class(es)	–
14.4 Packing group	–
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by air (IATA/ICAO 2024):

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not classified as dangerous goods for transport based on available hazard data
14.3 Transport hazard class(es)	–
14.4 Packing group	–
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation:

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
The Chemical Accidents (Emergency Planning, Preparedness, and Response) Rules, 1996
Public Liability Insurance Act, 1991

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3:

H302: Harmful if swallowed.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H411: Toxic to aquatic life with long lasting effects.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

United Nations GHS (Rev. 8); ECHA Classification & Labelling Inventory; publicly available peer-reviewed and regulatory toxicological/ecotoxicological literature for this CAS number.

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | COD: Chemical Oxygen Demand | BOD5: 5-day biochemical oxygen demand | BCF: Bioconcentration factor | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Log-POW: Octanol-water partition coefficient | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer

END OF SAFETY DATA SHEET