

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product form : Substance  
Trade name : CTC  
Chemical name : 5-Cyano-2,3-ditolyl-2H-tetrazolium chloride  
CAS-No. : 90217-02-0  
Product code : C440  
Formula : C16H14ClN5

**1.2. Relevant identified uses of the substance or mixture and uses advised against****1.2.1. Relevant identified uses**

No additional information available

**1.2.2. Uses advised against**

Recommended uses and restrictions : for research use only

**1.3. Details of the supplier of the safety data sheet**

Dojindo Laboratories  
Tabaru 2025-5 Mashiki-machi, Kamimashiki-gun, Kumamoto 861-2202, Japan

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Not classified

**Adverse physicochemical, human health and environmental effects**

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

**2.2. Label elements****Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

No labelling applicable

**2.3. Other hazards**

No additional information available

**SECTION 3: Composition/information on ingredients****3.1. Substances**

| Name | Product identifier   | %     | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|------|----------------------|-------|---|
| CTC  | (CAS-No.) 90217-02-0 | < 100 | Not classified  |

**3.2. Mixtures**

Not applicable

**SECTION 4: First aid measures****4.1. Description of first aid measures**

First-aid measures general : If you feel unwell, seek medical advice.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Wash skin with plenty of water.  
First-aid measures after eye contact : Rinse eyes with water as a precaution.  
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

|                                     |  |
|-------------------------------------|--|
| Symptoms/effects after inhalation   | : Dust of the product, if present, may cause respiratory irritation after excessive inhalation exposure. Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard. |
| Symptoms/effects after skin contact | : None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.  |
| Symptoms/effects after eye contact  | : None under normal conditions. Dust from this product may cause eye irritation.   |
| Symptoms/effects after ingestion    | : None under normal conditions.  |

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

|                                |                                    |
|--------------------------------|------------------------------------|
| Suitable extinguishing media   | : Water spray. Dry powder. Foam.   |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

### 5.2. Special hazards arising from the substance or mixture

|  |                                |
|--|--------------------------------|
| Fire hazard                                      | : No fire hazard.              |
| Explosion hazard                                 | : No direct explosion hazard.  |
| Hazardous decomposition products in case of fire | : Toxic fumes may be released. |

### 5.3. Advice for firefighters

|                                |   |
|--------------------------------|---|
| Firefighting instructions      | : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. |
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.              |

## SECTION 6: Accidental release measures

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

|                  |   |
|------------------|---|
| General measures | : Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage. |
|------------------|---|

#### 6.1.1. For non-emergency personnel

|                      |   |
|----------------------|---|
| Protective equipment | : Wear recommended personal protective equipment. |
| Emergency procedures | : Ventilate spillage area.                        |

#### 6.1.2. For emergency responders

|                      |   |
|----------------------|---|
| Protective equipment | : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Evacuate unnecessary personnel.   |

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

|                         |   |
|-------------------------|---|
| For containment         | : Using a clean shovel, put the material in a dry container and cover without compressing it. |
| Methods for cleaning up | : Mechanically recover the product.   |
| Other information       | : Dispose of materials or solid residues at an authorized site.                               |

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

|                                   |  |
|-----------------------------------|--|
| Additional hazards when processed | : Not expected to present a significant hazard under anticipated conditions of normal use. |
| Precautions for safe handling     | : Ensure good ventilation of the work station. Wear personal protective equipment.         |

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Technical measures : Keep in a cool, well-ventilated place away from heat.  
Storage conditions : Keep tightly closed. Protect from light. Store in a refrigerator(0~5°C).  
Packaging materials : Store always product in container of same material as original container.

## 7.3. Specific end use(s)

No additional information available

# SECTION 8: Exposure controls/personal protection

## 8.1. Control parameters

No additional information available

## 8.2. Exposure controls

### Appropriate engineering controls:

Ensure good ventilation of the work station.

### Personal protective equipment:

Wear recommended personal protective equipment.

#### Hand protection:

Protective gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

### Personal protective equipment symbol(s):



### Environmental exposure controls:

Avoid release to the environment.

# SECTION 9: Physical and chemical properties

## 9.1. Information on basic physical and chemical properties

Physical state : Solid  
Molecular mass : 311.77  
Colour : White to slightly orange crystalline powder.  
Odour : odourless.  
Odour threshold : No data available  
pH : No data available  
Relative evaporation rate (butylacetate=1) : No data available  
Melting point : No data available  
Freezing point : Not applicable  
Boiling point : No data available

|   |                     |
|---|---------------------|
| Flash point                                     | : Not applicable    |
| Auto-ignition temperature                       | : Not applicable    |
| Decomposition temperature                       | : No data available |
| Flammability                                    | : Non flammable.    |
| Vapour pressure                                 | : No data available |
| Relative vapour density at 20°C                 | : No data available |
| Relative density                                | : No data available |
| Solubility                                      | : Soluble in water  |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Viscosity, kinematic                            | : Not applicable    |
| Viscosity, dynamic                              | : No data available |
| Explosive properties                            | : No data available |
| Oxidising properties                            | : No data available |
| Explosive limits                                | : Not applicable    |

## 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

|                                   |                  |
|-----------------------------------|------------------|
| Acute toxicity (oral)             | : Not classified |
| Acute toxicity (dermal)           | : Not classified |
| Acute toxicity (inhalation)       | : Not classified |
| Skin corrosion/irritation         | : Not classified |
| Serious eye damage/irritation     | : Not classified |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity            | : Not classified |
| Carcinogenicity                   | : Not classified |
| Reproductive toxicity             | : Not classified |
| STOT-single exposure              | : Not classified |
| STOT-repeated exposure            | : Not classified |
| Aspiration hazard                 | : Not classified |

|                         |                |
|-------------------------|----------------|
| <b>CTC (90217-02-0)</b> |                |
| Viscosity, kinematic    | Not applicable |

**SECTION 12: Ecological information****12.1. Toxicity**

|   |   |
|---|---|
| Ecology - general   | : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. |
| Hazardous to the aquatic environment, short-term (acute)  | : Not classified  |
| Hazardous to the aquatic environment, long-term (chronic) | : Not classified  |
| Not rapidly degradable                                    |   |

**12.2. Persistence and degradability**

No additional information available

**12.3. Bioaccumulative potential**

No additional information available

**12.4. Mobility in soil**

No additional information available

**12.5. Results of PBT and vPvB assessment**

No additional information available

**12.6. Other adverse effects**

No additional information available

**SECTION 13: Disposal considerations****13.1. Waste treatment methods**

|  |   |
|--|---|
| Regional waste regulation                  | : Disposal must be done according to official regulations.  |
| Waste treatment methods                    | : Dispose of contents/container in accordance with licensed collector's sorting instructions.                           |
| Sewage disposal recommendations            | : Disposal must be done according to official regulations.  |
| Product/Packaging disposal recommendations | : Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations. |
| Additional information                     | : Do not re-use empty containers.   |

**SECTION 14: Transport information**

In accordance with IATA

| IATA                                    |                |
|---|----------------|
| <b>14.1. UN number</b>                  | Not applicable |
| <b>14.2. UN proper shipping name</b>    | Not applicable |
| <b>14.3. Transport hazard class(es)</b> | Not applicable |
| <b>14.4. Packing group</b>              | Not applicable |
| <b>14.5. Environmental hazards</b>      | Not applicable |
| No supplementary information available  |                |

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.1.1. EU-Regulations**

Not listed on REACH Annex XVII

Not listed on the REACH Candidate List

Not listed on REACH Annex XIV (Authorisation List)

Not listed on the PIC list (Regulation EU 649/2012)

Not listed on the POP list (Regulation EU 2019/1021)

**15.1.2. National regulations****Germany**

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG)  
 Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)

Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject to the Hazardous Incident Ordinance (12. BImSchV)

**Netherlands**

ABM category : A(4) - low hazard for aquatic organisms, may have longterm hazardous effects in aquatic environment

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : The substance is not listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

**Switzerland**

Storage class (LK) : NG - Non-hazardous

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out

**SECTION 16: Other information**

| Abbreviations and acronyms: |   |
|-----------------------------|---|
| ADN                         | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR                         | European Agreement concerning the International Carriage of Dangerous Goods by Road             |
| ATE                         | Acute Toxicity Estimate   |
| BCF                         | Bioconcentration factor   |
| BLV                         | Biological limit value  |
| BOD                         | Biochemical oxygen demand (BOD)   |
| COD                         | Chemical oxygen demand (COD)  |
| DMEL                        | Derived Minimal Effect level  |
| DNEL                        | Derived-No Effect Level   |
| EC-No.                      | European Community number   |
| EC50                        | Median effective concentration  |
| EN                          | European Standard   |
| IARC                        | International Agency for Research on Cancer   |
| IATA                        | International Air Transport Association   |
| IMDG                        | International Maritime Dangerous Goods  |
| LC50                        | Median lethal concentration   |
| LD50                        | Median lethal dose  |

|         |  |
|---------|--|
| LOAEL   | Lowest Observed Adverse Effect Level   |
| NOAEC   | No-Observed Adverse Effect Concentration                                     |
| NOAEL   | No-Observed Adverse Effect Level   |
| NOEC    | No-Observed Effect Concentration   |
| OECD    | Organisation for Economic Co-operation and Development                       |
| OEL     | Occupational Exposure Limit  |
| PBT     | Persistent Bioaccumulative Toxic   |
| PNEC    | Predicted No-Effect Concentration  |
| RID     | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS     | Safety Data Sheet  |
| STP     | Sewage treatment plant   |
| ThOD    | Theoretical oxygen demand (ThOD)   |
| TLM     | Median Tolerance Limit   |
| VOC     | Volatile Organic Compounds   |
| CAS-No. | Chemical Abstract Service number   |
| N.O.S.  | Not Otherwise Specified  |
| vPvB    | Very Persistent and Very Bioaccumulative                                     |
| ED      | Endocrine disruptor  |

The classification complies with : ATP 12

#### SDS EU (REACH Annex II)

This product is a chemical substance and is intended to be used by persons having chemical knowledge and skill at their own discretion and risk. This SDS was prepared with our best knowledge based on the information obtained. However, it does not provide any warranty on the data and the assessment of hazards and toxicity information be covered. For use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, region and country where the product be used.

In case you use the information on SDS for important decision, we strongly recommend you to confirm the source of information and the data with your own investigation. Please be noted that the physicochemical data and contents indicated in this SDS are not guaranteed values, only a guide. The cautions stated are for normal handling only. Additional care may be required for any special handling. The data and/or information used on this SDS may be updated by new knowledge and/or amendments of the conventional theory. Therefore, please check the most updated version of SDS which is available at [www.dojindo.com](http://www.dojindo.com).