SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION
Product Name: CARBOFURAN 98 TC
Active Ingredients: Carbofuran
Synonym: 2,3-dihydro-2,2-dimethylbenzofuran-7-yl N- methylcarbamate
Recommended use and restrictions on use: Used for Active ingredients of Insecticide
Company Identification: PT Inti Everspring Indonesia
Wisma UIC 4th floor, JL. Gatot Subroto Kav. 6-7
Jakarta 12930, Indonesia
Tel. 62-21-57905245 ; Fax. 62-21-57905244

SECTION 2 - HAZARDS IDENTIFICATION
GHS Classification:
- Acute Toxicity (Oral) Category 2
- Acute Toxicity (Dermal) Category 5
- Acute Toxicity (Inhalation) Category 2
- Serious Eye Damage/Eye Irritation Category 2B
- Skin Corrosion / Irritation Category 3
- Germ Cell Mutagenicity Category 2
- Specific Target Organ Toxicity (Single Exposure) Category 1
- Specific Target Organ Toxicity (Repeated Exposure) Category 1
- Acute Aquatic Toxicity Category 1
- Chronic Aquatic Toxicity Category 1

GHS Labelling Symbol (s):
- Danger

Hazard statements:
H300+H330 Fatal if swallowed or if inhaled
H313 May be harmful in contact with skin
H316 Causes mild skin irritation
H320 Causes eye irritation
H341 Suspected of causing genetic defects
H370 Causes damage to organs (nervous system)
H372 Causes damage to organs (nervous system and testis) through prolonged or repeated exposure
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects

Precautionary Statements
Prevention:
P264 Wash thoroughly after handling
P270 Do not eat, drink, or smoke when using this product
P260 Do not breathe dust/fume/gas/mist/vapours/spray
SAFETY DATA SHEET

Precautionary Statements

P271 Use only outdoors or in well ventilated area
P284 In case of inadequate ventilation wear respiratory protection
P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection
P273 Avoid release to the environment

Precautionary Statements

Responses
P301+P310 IF SWALLOWED: Immediately Call a POISON CENTER/doctor
P321 Specific treatment (see on this label)
P330 Rinse mouth
P302+P312 IF ON SKIN : Call a poison center/DOCTOR/ if you feel unwell
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P310 Immediately call a POISON CENTER or doctor/physician.
P320 Specific treatment is urgent (see on this label)
P332+P313 If skin irritation occurs : Get medical advice/attention
P305+P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persist: Get medical advice/attention
P308+P313 IF exposed or concerned : Get medical advice/attention
P308+P311 IF exposed or concerned : call a POISON CENTER/doctor
P321 Specific treatment (see on this label)
P314 Get medical advice/attention if you feel unwell
P391 Collect spillage

Precautionary Statements

Storage
P405 Store locked up
P403+P233 Store in well ventilated place. Keep container tightly closed.

Disposal
P501 Dispose of contents/container in accordance with local/ national/ international regulation

Other Hazard

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS NO</th>
<th>CONCENTRATION (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,3-dihydro-2,2-dimethylbenzofuran-7-yl N-</td>
<td>1563-66-2</td>
<td>98</td>
</tr>
<tr>
<td>methylcarbamate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### SECTION 4 - FIRST-AID MEASURES

**Eye**: IF IN EYES, rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Skin**: IF SPILLED ON THE SKIN, remove contaminated clothing and wash affected area of skin immediately. DO NOT Scrub the skin. Remove and wash contaminated clothing before re-use. Call a poison center/DOCTOR/ if you feel unwell.

**Ingestion**: IF SWALLOWED DO NOT induce vomiting. For advice, contact the National Poisons Centre or a doctor immediately.

**Inhalation**: IF INHALED, remove from exposure and have patient lie down and keep quiet. If patient is not breathing, start artificial respiration immediately. Never give anything by mouth to an unconscious person. Call a physician if necessary.

### SECTION 5 - FIRE FIGHTING MEASURES

**General Information**: Firefighters must consider the nature of the product and use the poison face shields, full breathing apparatus and flame resistant clothing

**Extinguishing Media**: Foam, dry chemical, carbon dioxide, or water spray

**Specific Hazard of Fire**: Irritating and toxic gas

### SECTION 6 - ACCIDENTAL RELEASE MEASURES

If container is ruptured or begins to leak, place in a well-ventilated area free of sparks and ignition sources.

Use Personal protective equipment as recommended in section 8.

Prevent product from entering drains or water courses. Shovel or sweep up spills. Never return to container for reuse. Scoop into bags or boxes using plastic or aluminium shovel. Pesticide that cannot be used according to label instructions must be disposed of according to all applicable Local, procedures.

### SECTION 7 - HANDLING AND STORAGE

**Handling**: Do not handle until all safety precautions have been read and understood. Do not breathe dust, vapour or mist. This product causes mild irritation to skin and eye. Do not get in eyes or skin. Wash thoroughly after handling. Wash clothing after use. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.

This product must be under the control of an approved handler at all times. This product must be tracked.

**Storage**: Do not store near sources of sparks, flame or heat. Keep under lock and keep out of reach of unauthorised persons, children and animals. Store in its original labeled container in isolated, dry, cool and well-ventilated area. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

### SECTION 8 - EXPOSURE CONTROL / PERSONAL PROTECTION

**Engineering control**: Use only with adequate ventilation. Apply grounding system for power tools to prevent static electric charge.

**Threshold Limit Value (TLV)**: 0.1 mg/m$^3$ (V) TLV-TWA 8hr

**Personal Protective Equipment**

- **Eye Protection**: Safety glasses or face shield
- **Gloves**: Chemical resistant gloves
- **Clothing Protection**: Wear clothing with long sleeve
- **Respiratory Protection**: Mask, in case of inadequate ventilation wear respiratory protection that recommended by NIOSH

### SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| 1  | Physical Appearance | Powder |
2 Color: White
3 Odor: Not available
4 Odor Threshold: Not available
5 pH (1%): 6.65
6 Melting Point: Not available
7 Freezing Point: Not available
8 Boiling Point: Not available
9 Flash Point: Not available
10 The rate of Evaporation: Not available
11 Flammability: Not available
12 Lower Explosive Limit (LEL): Not available
13 Vapour Pressure: Not available
14 Molecular weight: Not available
15 Decomposition temperature: Not available
16 Autoignition temperature: Not available
17 Viscosity: Not available
18 Bulk Density: 0.3543
19 Density relative: Not available
20 Solubility in water: Not available
21 Koefisien partition : n-octanol/water: Not available

**SECTION 10 - STABILITY AND REACTIVITY**
Reactivity: None known
Stability: Stable under normal storage condition
Hazardous Reaction under Specific Condition: Not available
Condition to Avoid: Avoid excessive temperature. Decomposes > 150°C.
Incompatible material to avoid: Unstable in alkaline material
Hazardous Product of Decomposition: Irritating and toxic gas
Hazardous Polymerization: Will not occur

**SECTION 11 - TOXICOLOGICAL INFORMATION**
Acute Toxicity (oral) LD₅₀: 8 mg/kg for male and female rats (Pesticide Manual, 2009)
1152 mg/kg for female rats (Pesticide Manual, 2009)
The neurologic symptom which indicates cholinesterase inhibits activities in the exposure tests to human in ACGIH (2004) was observed, and that the sensorimotor neuropathy was observed in the ingestion of very large amounts case (NITE, 2006).

Acute Toxicity (dermal) LD₅₀: >2000 mg/kg (Pesticide Manual, 2009)

Acute Toxicity (inhalation) LC₅₀: 0.075 mg/l (aerosol) for rat / 4 hour (Pesticide Manual, 2009)

Subchronic toxicity (90 days) - Technical Material: Not available

Chronic Toxicity (2 years) - Technical Material: In the oral study for two years using rats in ACGIH (2004), reduction in brains cholinesterase activities was observed with the given dose within the guidance value range of Category 1, and that in the oral study for one year using dogs in ACGIH (2004) and IRIS (2006) the effects on the nervous...
system and testes were observed with the given dose (NITE, 2006).

Mutagenicity in germ cells: There is a positive result from the micronucleus test using mouse erythrocytes, which is an in vivo mutagenicity test using somatic cells (ACGIH, 2004 in NITE, 2006).

Carcinogenicity: No carcinogenic activity.


SECTION 12 - ECOLOGICAL INFORMATION

Acute Toxicity:
- Fish - *Bluegill sunfish* (LC₅₀ 96 h): 1.75 mg
- Fish – *Golden orfe* (LC₅₀ 96 h): 7.3 – 362.5 µg/l
- *Daphnia Magna* (LC₅₀ 48 h): 38.6 µg/l
- Bird – *Japanese quail* (LD₅₀): 0.7 - 8 mg/kg

Bio accumulation: Not available.

Persistence and degradation by environment: DT₅₀ in soil c. 50 – 60 d. Most important metabolite is CO₂ formed by microbiological degradation of the phenol compounds K₉₀ 22.

Soil Mobility: Not available.

Others adverse effect: Toxic for bees.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal, storage or cleaning equipment should not be used to contaminate food, animal feed or water. Read extermination instructions listed on the product label. Products are very toxic to aquatic life with long lasting effects. Do not contaminate domestic water or other water sources.

Disposal Containers / Packaging: Destroy empty container and dispose of / destroyed in accordance with local regulations. Never use second-hand containers for any purpose.

SECTION 14 - TRANSPORT INFORMATION

DOT (US)
- Proper shipping name: CARBAMATE PESTICIDE, SOLID, TOXIC (Carbofuran 98%)
- Class Danger Transport: 6.1
- UN Number: UN 2757
- Packing Group: I

IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)
- UN Number: UN 2757
- Class and Packing group: 6.1 and I
- Proper shipping name: CARBAMATE PESTICIDE, SOLID, TOXIC (Carbofuran 98%)
- Marine Pollutant: Yes (Carbofuran)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)
- UN Number: UN 2757
- Class and Packing group: 6.1 and I
- Proper shipping name: CARBAMATE PESTICIDE, SOLID, TOXIC (Carbofuran 98%)

SECTION 15 - REGULATORY INFORMATION

Safety Data Sheet / Safety Data Sheet meets the regulations:
1. Regulation of the Minister of Industry of the Republic of Indonesian number 23 / M-INDPER / 4/2013
3. Building Blocks seventh revised edition of the GHS
SECTION 16 - OTHER INFORMATION

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

Reference:

1. Building Blocks seventh revised edition of the GHS
2. Regulation of the Minister of Industry of the Republic of Indonesian number 23 / M-INDPER / 4/2013
5. American Conference of Governmental Industrial Hygienist (ACGIH). Table of Exposure Limit for Chemical and Biological Substances. 2017