

# Material Safety Data Sheet

Date prepared : May 16, 2006  
Revised :

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### 1.1 Identification of the Substance or Preparation

Name of Product : **PILOT ultra**  
Other Name : Targa Super 5SC  
Quizalofop-P-ethyl 50 g/L SC TASC-220 HP  
Code No. : TASC-220 HP  
Type of Formulation : 50 g ai/L Suspension Concentrate

### 1.2 Use of the Substance/Preparation

Preparation as a plant protection product : Herbicide

### 1.3 Company/Undertaking Identification

#### Nissan Chemical Industries, Ltd.

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### 1.4 Emergency Telephone

Phone : +81 (0)3-3296-8151 (Nissan Chemical Industries, Ltd.)  
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## 2. COMPOSITION/INFORMATION OF INGREDIENTS

#### Chemical Composition :

Quizalofop-P-ethyl ..... 50 g/L  
Suspension Concentrate (SC) : water based plant protection product (a herbicide)

#### Hazardous components :

| Component                     | CAS No      | Symbol | R-Phrase   | Content Wt/Vol % |
|-------------------------------|-------------|--------|------------|------------------|
| Quizalofop-P-ethyl            | 100646-51-3 | Xn, N  | R22 R50/53 | 5 %              |
| Alcohols (C11-15) ethoxylated | 84133-50-6  | Xi     | R36, R38   | >5 - <25 %       |

#### Active Ingredient

Common Name : Quizalofop-P-ethyl  
Code No. : D(+) NC-302  
Chemical Name : C.A. Propanoic acid, 2-[4-[(6-chloro-2-quinoxalinyloxy)phenoxy]-, ethyl ester, (R)-  
IUPAC Ethyl (R)-2-[4-(6-chloroquinoxalin-2-yloxy)phenoxy] propionate  
Empirical Formula : C<sub>19</sub>H<sub>17</sub>ClN<sub>2</sub>O<sub>4</sub>  
Molecular Weight : 372.81

## 3. HAZARD IDENTIFICATION

Toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

## 4. FIRST AID MEASURES

**General advice :**

Remove contaminated, soaked clothing immediately and dispose of safely.

**Eye contact :**

Immediately rinse with running water for at least 15 minutes. Seek medical advice.

**Skin contact :**

Remove all contaminated clothing, shoes and socks from the affected area. Immediately rinse with running water. Wash skin thoroughly with soap and water. If irritation persists, seek medical advice.

**Inhalation :**

If respiratory discomfort occurs, move the person to fresh air. If not breathing, give mouth-to-mouth resuscitation (or an artificial respiration). Keep warm with blanket and keep at rest. Seek emergency medical advice

**Ingestion :**

Rinse mouth with water. Give a glasses of water if able to swallow. Do not induce vomiting unless to do so by a medical doctor. Seek medical advice immediately. Do not give anything by mouth to an unconscious person.

**Note to physician :**

No symptoms are known. Treat according to symptoms (decontamination, visual function). No specific antidotes are known.

## 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media** : Water, foam, dry chemicals or carbon dioxide (CO<sub>2</sub>)
- Extinguishing media which must not be used for safety reasons** : None
- Special exposure hazards** : Combustion can form carbon monoxide, nitrogen oxides and hydrogen chloride.
- Special protective equipment for fire-fighter** : Use self-contained breathing apparatus and protective clothing
- Further information** : Move away this product from fire if there is no risk. Use water spray or fog nozzle to keep containers or surrounding area cool. Fight fire from upwind position.

## 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Wear suitable protective clothing, shoes, gloves and goggle. Avoid contact with spilled product or contaminated surfaces.
- Environmental precautions** : Keep unauthorized persons, children and animals away from the affected area. Prevent spillage from entering the drainage systems or watercourses.
- Methods for cleaning up** : Prevent further waste by closing the container properly, shifting its position to stop leakage or placing into another container. Carefully sweep up and collect the spilled material by absorbent such as sand or vermiculite and place in a closed container (drum) for disposal. Do not raise dust. Wash affected area with water and a detergent.

## 6. ACCIDENTAL RELEASE MEASURES (continued)

**Further information** : See section 7 for safe handling.  
See section 8 for personnel protective equipment.  
See section 13 for waste disposal.

## 7. HANDLING AND STORAGE

### Handling

No specific precautions required when handling unopened packs/containers.

Protect containers against physical damage.

Wear suitable protective clothing, shoes, gloves and goggles during handling.

Do not eat, drink, or smoke during the work. Avoid contact with skin or eyes.

Prevent spillage from entering the drainage systems or watercourses. Wash thoroughly after handling.

### Storage

Keep tightly closed in original labeled container. Keep away from heat and open flame.

Keep away from direct sunlight. Protect against frost.

Keep away from the reach of children. Keep away from foods, drinks and animal feeding stuffs.

Storage temperature: 0 - 30°C

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

**Exposure limit values** : Not established

### Exposure controls / Occupational exposure controls

Respiratory protection : Dust respirator/mask

Hand protection : Chemical resistant gloves, Rubber gloves

Eye protection : Safety glasses or goggles

Skin protection : Impervious clothing such as gloves, apron or PVC boots

Hygiene measures : Avoid contact with eyes, skin and clothing.  
Remove soaked or soiled clothing immediately.

Wash thoroughly after handling

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance and odor** : White opaque liquid      Odorless

**Explosive property** : None

**Oxidizing property** : None

**Flash point** : Not applicable due to water based formulation

**Auto-flammability** : 450 °C

**pH** : 6.9

**Viscosity** : 29 mPa.s (23°C)

**Surface tension** : 30 mN/m

**Relative density** : 1.015 g/ml (20°C)

**Vapour pressure** :  $1.1 \times 10^{-7}$  Pa (20 °C) data on active substance

**Partition coefficient** : Log Pow 4.61 at 23 °C (n-octanol/water) data on active substance

**Other information** : The preparation is a water based formulation.

## 10. STABILITY AND REACTIVITY

**Conditions to avoid**  
Avoid high temperatures.      Stable under normal storage conditions.

## 10. STABILITY AND REACTIVITY (continued)

### Materials to avoid

May react with strong bases, acids or strong oxidizing agents, such as chlorates, nitrates, peroxides.

### Hazardous decomposition products

No hazardous reactions when stored and handled according to recommendation.  
Stable under normal storage conditions.

## 11. TOXICOLOGICAL INFORMATION

|                           |   |                          |  |
|---------------------------|---|--------------------------|--|
| Acute oral toxicity       | : | LD <sub>50</sub> (rats): | > 2000 mg/kg (M/F)                                     |
| Acute dermal toxicity     | : | LD <sub>50</sub> (rats): | > 2000 mg/kg (M/F)                                     |
| Acute inhalation toxicity | : | LC <sub>50</sub> (rats): | 5.8 mg/L (based on quizalofop-ethyl)                   |
| Eye irritation            | : | Result (rabbit):         | slight to moderate irritation (not require R36)        |
| Skin irritation           | : | Result (rabbit):         | transient and very slight irritation (not require R38) |
| Sensitization             | : | Result (Guinea pig):     | no skin sensitization                                  |

*The following is data of the active ingredient, quizalofop-P-ethyl.*

### Quizalofop-P-ethyl

Oral LD<sub>50</sub> (rats) : 1,210/1,182 mg/kg (M/F); Dermal LD<sub>50</sub> (rats) : >5,000 mg/kg (based on the racemate).

Inhalation LC<sub>50</sub> (rats) : 5.8 mg/L (based on the racemate).

Chronic (2-Year) NOEL (rats) : 0.9/1.1 mg/kg/day (M/F) (based on the racemate).

No carcinogen (based on the racemate),

Mutagenicity : Negative

Eye irritation : None, Skin irritation : None,

Skin Sensitization : None

## 12. ECOLOGICAL INFORMATION

|                      |                         |   |   |
|----------------------|-------------------------|---|---|
| Fish (Rainbow trout) | LC <sub>50</sub> (96 h) | : | 5.7 mg/L<br>(data of similar EC formulation)        |
| Daphnia magna        | EC <sub>50</sub> (48 h) | : | 7.2 mg/L<br>(data of similar EC formulation)        |
| Algae                | EC <sub>50</sub> (72 h) | : | 19.1 mg/L (growth curve)<br>97.6 mg/L (growth rate) |

*The following is data of the active ingredient, quizalofop-P-ethyl.*

|                                      |                                 |   |  |
|--------------------------------------|---------------------------------|---|--|
| Fish (Rainbow trout)                 | LC <sub>50</sub> (96 h)         | : | 0.388 mg/L                                       |
| Daphnia magna                        | EC <sub>50</sub> (48 h)         | : | 0.29 mg/L  |
| Algae                                | EC <sub>50</sub> (72 h)         | : | 0.02 mg/L  |
| Bird (Mallard duck)                  | LD <sub>50</sub>                | : | > 2,000 mg/kg                                    |
| Birds (Bobwhite quail)               | LD <sub>50</sub>                | : | > 2,000 mg/kg                                    |
| Bee                                  | LD <sub>50</sub> (Oral/Contact) | : | > 100 µg/bee                                     |
| Earthworm ( <i>Eisenia foetida</i> ) | LC <sub>50</sub>                | : | > 1,000 mg/kg soil                               |
| Soil non-target micro-organisms      |                                 | : | No effects on soil nitrification and respiration |
| Effects on sewage treatment          |                                 | : | No adverse effect in sewage sludge organisms     |

### Bioaccumulative potential

The potential of quizalofop-P-ethyl to accumulate in biota and pass through the food chain is considered to be low based on the BCF and a rapid degradation of the substance.

|   |                      |   |                                      |
|---|----------------------|---|--------------------------------------|
| Partition coefficient (n-octanol/water) | Log Pow              | : | 4.61 at 23 °C                        |
| Bioconcentration (Bluegill sunfish)     | BCF (28 days)        | : | 380 x (whole fish)                   |
|   | Depuration (14 days) | : | Less than 1 % remained in whole fish |

## 13. DISPOSAL CONSIDERATIONS

The active substance of this product, quizalofop-P-ethyl, is toxic to fish and wildlife. Do not contaminate waterways by cleaning of equipment or disposal of wastes. Untreated effluent should not be discharged where it will drain into lakes, streams, or ponds.

Wastes resulting from manufacture and formulation that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or incinerator in accordance with all applicable regulation.

## 14. TRANSPORT INFORMATION

Special care must be taken during loading and unloading to prevent damage to containers. This product must not be loaded with food or feed. Follow all applicable regulations.

### IMDG

|                        |   |  |
|------------------------|---|--|
| UN No.                 | : | 3082   |
| Class                  | : | 9  |
| Packing Group          | : | III  |
| Hazard Label           | : | Miscellaneous (S)  |
| Marine Pollutant Label | : | Marine Pollutant   |
| Proper Shipping Name   | : | Environmental hazardous substance, liquid, n.o.s.<br>(quizalofop-P-ethyl solution) |

### ICAO/IATA

|                      |   |  |
|----------------------|---|--|
| UN No.               | : | 3082   |
| Class                | : | 9  |
| Packing Group        | : | III  |
| Proper Shipping Name | : | Environmental hazardous substance, liquid, n.o.s.<br>(quizalofop-P-ethyl solution) |

### ADR/RID/ADNR

|                      |   |  |
|----------------------|---|--|
| UN No.               | : | 3082   |
| Class                | : | 9  |
| Packing Group        | : | III  |
| Proper Shipping Name | : | Environmental hazardous substance, liquid, n.o.s.<br>(quizalofop-P-ethyl solution) |

## 15. REGULATORY INFORMATION

This product is classified and labeled in accordance with Council Directive 67/548/EEC and Directive 1999/45/EC on dangerous preparations.

**Hazardous components** which must be listed on the label:

- Quizalofop-P-ethyl
- Alcohols (C11-15) ethoxylated

**Symbol(s)** N : Dangerous for the environment

**Risk Phrases** : R51/53 : Toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

**Safety Phrases** : S35 : This material and its container must be disposed of in a safe way.  
S37 : Wear suitable gloves.  
S57 : Use appropriate container to avoid environmental contamination.

## 15. REGULATORY INFORMATION (continued)

Exceptional labeling of special preparations

Restricted to professional users

To avoid risks to man and the environment, comply with the instructions for use.

Further information

WHO Classification: III (Slightly hazardous)/ active ingredient quizalofop-P-ethyl

## 16. OTHER INFORMATION

Text of Symbols and Risk Phrases mentioned in Section 2:

|        |   |  |
|--------|---|--|
| Xn     | : | Harmful  |
| Xi     | : | Irritant   |
| N      | : | Dangerous for the environment  |
| R22    | : | Harmful if swallowed.  |
| R36    | : | Irritating to eyes.  |
| R38    | : | Irritating to skin.  |
| R50/53 | : | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |

This Material Safety Data Sheet is prepared in accordance with Commission Directive 2001/58/EC. The information above is believed to be accurate and represents the best information currently available. However, Nissan Chemical Industries, Ltd. makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and Nissan Chemical Industries, Ltd. assumes no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.