

# Safety Data Sheet

Safety Data Sheet/ Targa Max

Issue Date : November 16, 2015

Revision Date : -

Version No. : 1

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

### 1.1 Product identifier

Name of product : **Targa Max**  
Other names : Targa Super, Nervure Super, Quinalofop-P-ethyl 100 g/L EC, Targa Super 10EC  
Code No. : N24A ND-16  
Type of formulation : Emulsifiable Concentrate (EC)

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Function : Plant protection product, Herbicide

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

**Manufacturer and Supplier:** Nissan Chemical Europe S.A.R.L.  
Parc d'affaires de Crecy 10A rue de la Voie Lactée, 69370 St-Didier-au Mont-d'or, France  
Contact person: Mr. Hitoshi Ueda  
Phone: +33 (0)4 37 64 40 20, Fax: +33 (0)4 37 64 68 74

### 1.4. Emergency telephone number

Nissan Chemical Europe S.A.R.L.: +33 (0)4 37 64 40 20 (available only during office hours)

## 2. HAZARD IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### Classification in accordance with Regulation (EC) No 1272/2008 [CLP]

Eye dam. 1, H318

### 2.2. Label elements

#### Labelling according to Regulation (EC) No 1272/2008 [CLP]

Hazard Pictogram:



Signal word:  
Danger

Hazard Statement:  
H318: Causes serious eye damage

Precautionary statements:

P280: Wear protective gloves/clothing/eye protection/face protection

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

Supplementary statements

EUH066: Repeated exposure may cause skin dryness or cracking

EUH401: To avoid risks to human health and the environment comply with the instructions for use.

### 2.3. Other hazards

The product will be regarded to be neither PBT nor vPvB.

**3. COMPOSITION/INFORMATION OF INGREDIENTS**

**Substance or mixture:** Mixture

**Chemical Composition:**

Quizalofop-P-ethyl ..... 100 g/L  
Emulsifier and aromatic hydrocarbons ..... Balance

**Active Ingredient**

Common Name : Quizalofop-P-ethyl  
Code No. : D(+) NC-302  
CAS No. : 100646-51-3  
Chemical Name (CA) : Propanoic acid, 2-[4-[(6-chloro-2-quinoxalinyloxy)phenoxy]-, ethyl ester, (R)-  
(IUPAC) : Ethyl (R)-2-[4-(6-chloroquinoxalin-2-yloxy)phenoxy] propionate  
Classification in accordance with Regulation (EC) No 1272/2008:  
Acute Tox. 4, Aquatic Acute 1, Aquatic Chronic 1  
H302, H400, H410  
REACH registration No. : Not assigned  
EINECS or ELINCS No. : Not assigned

**Inert Ingredient 1**

Chemical Name : Polyoxyethylene alkyl ether  
CAS No. : 84133-50-6  
Content : < 50% w/w  
Classification in accordance with Regulation (EC) No 1272/2008:  
Acute Tox 4, Eye Irrit.2, Aquatic Acute 2  
H302, H319  
REACH registration No. : Not disclosed  
EINECS or ELINCS No. : Polymer

**Inert Ingredient 2**

Chemical Name : Benzenesulphonic, acid, 4-C10-14-alkylderivs., calcium salts  
CAS No. : 90194-26-6  
Content : < 5% w/w  
Classification in accordance with Regulation (EC) No 1272/2008:  
Skin Irrit. 2, Eye Dam. 1  
H315, H318  
REACH registration No.: 01-2119560592-37  
EINECS or ELINCS No. : -

**Inert Ingredient 3**

Chemical Name : 2-Ethylhexanole  
CAS No. : 104-76-7  
Content : < 5% w/w  
Classification in accordance with Regulation (EC) No 1272/2008:  
Eye Irrit.2, Skin Irrit.2, Acute Tox.4  
H315, H319, H332  
REACH registration No. : Not disclosed  
EINECS or ELINCS No. : 203-234-3

**Inert Ingredient 4**

Chemical Name : Solvent naphtha (petroleum), heavy aromatic  
CAS No. : 64742-94-5  
Content : < 50% w/w  
Classification in accordance with Regulation (EC) No 1272/2008:  
Asp. Tox. 1  
H304  
REACH registration No.: Not disclosed  
EINECS or ELINCS No.: 265-198-5

## 4. FIRST AID MEASURES

### 4.1. Description of first aid measures: Immediately call a POISON CENTER or doctor/physician (P310)

**Eye contact** : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing (P305+P351+P338). Seek medical advice.

**Skin contact** : Remove all contaminated clothing, shoes and socks from the affected area. Wash material off the skin in flowing water or shower with soap. If irritation persists, consult a physician immediately.

**Inhalation** : If respiratory discomfort occurs, remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give mouth-to-mouth resuscitation (or an artificial respiration). Keep warm with blanket and keep at rest.

**Ingestion** : Do not induce vomiting. Wash out mouth with water. Do not given anything by mouth if person is unconscious.

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

No symptoms have been identified in humans to date.

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

Treat based on judgment by physician in response to symptoms of patient. No specific antidotes are known.

## 5. FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

Suitable extinguishing media : Water, foam, dry chemicals or carbon dioxide.

Extinguishing media which shall not be used for safety reasons : High volume water jet.

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

Carbon dioxide, carbon monoxide, hydrogen chloride and oxides of nitrogen are potential thermal decomposed products.

### 5.3. Advice for firefighters

In the event of fire and/or explosion do not breathe fumes. Use self-contained breathing apparatus and protective clothing.

Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat.

## 6. ACCIDENTAL RELEASE MEASURES

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

Wear suitable protective clothing, shoes, gloves and goggles. Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke.

### 6.2. Environmental precautions

Keep unauthorized persons, children and animals away from the affected area. Prevent spillage from entering the drainage systems or watercourses.

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

Carefully sweep up and collect the spilled material using an inert absorbent material (sand, vermiculite, or sawdust) and place in a closed container (drum) for disposal. Remove (large quantities) with vacuum truck. Do not raise dust. Wash affected area with water containing detergent.

### 6.4. Reference to other sections

See section 8 for personnel protective equipment.

See section 13 for waste disposal.

## 7. HANDLING AND STORAGE

### 7.1. Precautions for safe handling

No specific precautions required when handling unopened packs/containers. Wear protective gloves/protective clothing/eye protection/ face protection (P280). Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid contact with skin or eyes. Protect containers against physical damage. Do not eat, drink, or smoke during the work. Prevent spillage from entering the drainage systems or watercourses.

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

Keep tightly closed in original labeled container. Store in a cool and dry place and protect from direct sunlight. Keep away from the reach of children. Keep away from foods, drinks and animal feeding stuffs.

### 7.3. Specific end use(s)

Use this product only for plant protection.

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

### 8.1. Control parameters

Exposure limit values (DNEL, PNEC) : RCP-TWA 100 mg/ m<sup>3</sup> /15 ppm.  
(Solvent naphtha (petroleum), heavy aromatic)

### 8.2. Exposure controls

Exposure controls

Occupational exposure controls

Respiratory protection : Filter apparatus (a half face filter mask, filter type A)  
Hand protection : Chemical resistant gloves, Rubber gloves

### 8.2. Exposure controls (continued)

Eye protection : Safety glasses or goggles  
Skin protection : Impervious clothing such as gloves, apron or PVC boots

Environmental exposure controls : Prevent spillage from entering the drainage systems or watercourses.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

**Appearance** : Amber clear liquid  
**Odour** : Aromatic hydrocarbon odour  
**pH** : 6.2 (1% w/v suspension)  
**Melting point/melting range** : Not applicable since the product is liquid at ambient temperature.  
**Boiling point/boiling range** : 175 – 292 °C (Solvent naphtha)  
**Flash point** : 110 °C (closed cup)  
**Evaporation rate** : 0.06 (n-butyl acetate = 1, Solvent naphtha)  
**Flammability** : See **Auto-ignition temperature**  
**Explosive properties** : Not explosive  
**Oxidising properties** : Not oxidising  
**Vapor pressure** : 0.09 kPa (0.68 mm Hg) at 20°C (Solvent naphtha)  
**Relative density** : 1.021 g/ml at 20°C  
**Solubility** : Not available  
**Water solubility** : Not available  
**Partition coefficient (n-octanol/water)** : Log Pow 4.61 at 23 °C (n-octanol/water) (quizalofop-P-ethyl)  
**Viscosity** : Kinematic viscosity at 40°C = 15.4 mm<sup>2</sup>/s  
**Vapor density** : >1 (Solvent naphtha)  
**Auto-ignition temperature** : > 400 °C  
**Decomposition temperature** : Not available.

**9. PHYSICAL AND CHEMICAL PROPERTIES (continued)****9.2. Other information**

No other information is available.

**10. STABILITY AND REACTIVITY****10.1. Reactivity**

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

**10.2. Chemical stability**

Stable under normal ambient storage conditions.

**10.3. Possibility of hazardous reactions**

Hazardous reactions will not occur.

**10.4. Conditions to avoid**

Avoid high temperatures. Protect from sunlight, open flame, sources of heat and humidity.

**10.5. Incompatible materials**

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

**10.6. Hazardous decomposition products**

None hazardous decomposition products under normal conditions of storage and use. Thermal decomposition products include carbon monoxide, nitrogen oxides and halogenated compounds.

**11. TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects****Product**

|                           |   |                         |                                       |
|---------------------------|---|-------------------------|---------------------------------------|
| Acute oral toxicity       | : | LD <sub>50</sub> (rats) | 3,297/3,125 mg/kg (M/F)               |
| Acute dermal toxicity     | : | LD <sub>50</sub> (rats) | > 2,000 mg/kg                         |
| Acute inhalation toxicity | : | LC <sub>50</sub> (rats) | > 5.9 mg/lit (4 hrs.)                 |
| Eye irritation            | : | (rabbits)               | Severely irritant                     |
| Skin irritation           | : | (rabbits)               | Slightly irritant (Not required H315) |
| Sensitization             | : | (guinea pigs)           | None                                  |

**Quizalofop-P-ethyl active ingredient**

|  |   |   |                               |
|--|---|---|-------------------------------|
| <b>Toxicokinetics, metabolism and distribution</b> | : | Rapidly absorbed and extensively metabolised. Up to 70% of radioactivity was excreted in urine and faeces within 48 hours. Very low potential for accumulation. |                               |
| <b>Short-term oral toxicity (90 days)</b>          | : | NOAEL (rats)  | 7.7 mg/kg/day                 |
| <b>Short-term oral toxicity (1 year)</b>           | : | NOAEL (dogs)  | 13.4 mg/kg/day                |
| <b>Short-term dermal toxicity (21 days)</b>        | : | NOEL (rats)   | 2000 mg/kg                    |
| <b>Chronic/Carcinogenicity (1.5 years/mice)</b>    | : | NOAEL (toxicity)  | 1.55 mg/kg/day                |
|  |   | NOEL (tumour)   | Not carcinogenic              |
| <b>Chronic/Carcinogenicity (2 years/rats)</b>      | : | NOAEL (toxicity)  | 0.9 mg/kg/day                 |
|  |   | NOEL (tumour)   | Not carcinogenic              |
| <b>Reproductive toxicity (rats)</b>                | : | NOEL (toxicity)   | 25 mg/kg diet                 |
|  |   | NOEL (reproduction)   | No effects on reproduction    |
| <b>Developmental toxicity (rats)</b>               | : | NOEL (toxicity)   | 30 mg/kg/day                  |
|  |   | NOEL (development)  | 100 mg/kg/day Not teratogenic |
| <b>Developmental toxicity (rabbits)</b>            | : | NOEL (toxicity)   | 30 mg/kg/day                  |
|  |   | NOEL (development)  | 60 mg/kg/day Not teratogenic  |
| <b>Mutagenicity</b>                                | : | Not mutagenic (Negative in <i>in vitro</i> & <i>in vivo</i> studies)  |                               |

## 12. ECOLOGICAL INFORMATION

### 12.1 Ecotoxicity

#### Product

|                            |  |                       |
|----------------------------|--|-----------------------|
| Toxicity to fish           | : LC <sub>50</sub> (96 h, Rainbow trout)                       | 2.87 mg/L             |
| Toxicity to <i>Daphnia</i> | : EC <sub>50</sub> (48 h, <i>Daphnia magna</i> )               | 3.38 mg/L             |
| Toxicity to algae          | : EC <sub>50</sub> (72 h, <i>S. capricornutum</i> )            | 5.04 mg/L             |
| Toxicity to bees           | : LD <sub>50</sub> (Oral/Contact, 48h, <i>Apis mellifera</i> ) | 268.5 / 326.1 µg /bee |
| Toxicity to earthworm      | : 14-day LC <sub>50</sub> ( <i>Eisenia foetida</i> )           | 607 mg/kg soil        |

#### Quizalofop-P-ethyl active ingredient

|                            |  |                   |
|----------------------------|--|-------------------|
| Toxicity to fish           | : LC <sub>50</sub> (96 h, Rainbow trout)             | 0.388 mg/L        |
|                            | : NOEC (21 days, Rainbow trout)                      | 0.044 mg/L        |
| Toxicity to <i>Daphnia</i> | : EC <sub>50</sub> (48 h, <i>Daphnia magna</i> )     | 0.29 mg/L         |
| Toxicity to algae          | : EC <sub>50</sub> (5 d, <i>S. capricornutum</i> )   | 0.021 mg/L        |
| Toxicity to aquatic plants | : EC <sub>50</sub> (7 d, <i>Lemna gibba</i> G3)      | 0.0828 mg/L       |
| Toxicity to earthworm      | : LC <sub>50</sub> ( <i>Eisenia foetida</i> )        | >1,000 mg/kg soil |
| Toxicity to bird           | : LD <sub>50</sub> (Bobwhite quail)                  | >2,000 mg/kg      |
|                            | : LC <sub>50</sub> (5d, Bobwhite quail/Mallard duck) | >2,000 mg/kg diet |
|                            | : LC <sub>50</sub> (5d, Mallard duck)                | >2,000mg/kg       |
|                            | : NOEL (reproduction)                                | 500 mg/kg diet    |
| Soil micro-organism        | : No effects on soil nitrification and respiration   |                   |
| Sewage treatment           | : No adverse effect in sewage sludge organisms       |                   |

### 12.2. Persistence and degradability

#### Product

No information is available for the product.

#### Quizalofop-P-ethyl active ingredient

Quizalofop-P-ethyl is hydrolytically stable, but readily degraded in soils and water/sediment systems.

|                                      |                     |                       |
|--------------------------------------|---------------------|-----------------------|
| Hydrolysis (20°C)                    | : DT50 : >365 days  | (pH 4)                |
|                                      | : 112 days          | (pH 7)                |
|                                      | : < 1 day           | (pH 9)                |
| Aqueous photolysis (25°C)            | : DT50 : 38.3 days  | (pH 5 xenon arc lamp) |
| Degradation in soil (20°C)           | : DT50 : < 2 days   |                       |
| Degradation in water/sediment (20°C) | : DT50 : < 2 days   |                       |
| Ready biodegradability               | : Poorly degradable |                       |

### 12.3. Bioaccumulative potential

#### Product

No information is available for the product.

#### Quizalofop-P-ethyl active ingredient

The potential of the substance 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) | : <1 % remained in whole fish |

## 12. ECOLOGICAL INFORMATION (continued)

### 12.4. Mobility in soil

#### Product

No information is available for the product.

#### Quizalofop-P-ethyl active ingredient

Quizalofop-P-ethyl is readily degraded to acid metabolite quizalofop-P in the environment. The acid quizalofop-P is less toxic than the parent quizalofop-P-ethyl. Quizalofop-P is further degraded in the environment.

Surface tension (quizalofop-P-ethyl) : Not applicable due to the water solubility (less than 1 mg/l)  
Adsorption/desorption (quizalofop-P) :  $K_{F}^{adsoc}$  : 214- 1791 (acid metabolite: low-medium mobility)

### 12.5. Results of PBT and vPvB assessment

#### Product

No information is available for the product, but it will be regarded to be neither PBT nor vPvB based on the data of the active ingredient.

#### Quizalofop-P-ethyl active ingredient

Based on the values of  $DT_{50}$  in soil and BCF of the active ingredient, it is considered to be neither PBT nor vPvB.

### 12.6. Other adverse effects

Investigations indicate no significant loss of the parent quizalofop-P-ethyl to the air from either soils or plant surfaces following pesticide application.

Photochemical oxidative degradation in air :  $DT_{50}$  : 4.5 hours

## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

Do not contaminate water, foodstuffs, feed or seed by disposal.

#### **PRODUCT DISPOSAL**

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or burned in incinerator in accordance with all applicable regulations.

#### **CONTAINER DISPOSAL**

Completely empty container by shaking and tapping sides and bottom to loosen clinging particles. Do not reuse container. Triple rinse container, then puncture and dispose of by incineration in accordance with all applicable regulations.

## 14. TRANSPORT INFORMATION

### 14.1. UN number

3082

### 14.2. UN proper shipping name

Environmental Hazardous Substance, Liquid n.o.s. (quizalofop-P-ethyl, solvent naphtha (petroleum) heavy aromatic solution)

### 14.3. Transport hazard class(es)

Class 9

### 14.4. Packing group

Packing Group III

**14. TRANSPORT INFORMATION (continued)****14.5. Environmental hazards**

Marine Pollutant Label : Marine Pollutant

**14.6. Special precautions for user**

No special precautions available.

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

No bulk transportation intended.

**14.8. Supplemental information****IMDG**

|                        |   |  |
|------------------------|---|--|
| UN No.                 | : | 3082   |
| Class                  | : | 9  |
| Packing Group          | : | III  |
| Ems                    | : | F-A, S-F   |
| Marine Pollutant Label | : | Marine Pollutant   |
| Proper Shipping Name   | : | Environmental Hazardous Substance, Liquid n.o.s. (quizalofop-P-ethyl, solvent naphtha (petroleum) heavy aromatic solution) |

**ICAO/IATA**

|                      |   |  |
|----------------------|---|--|
| UN No.               | : | 3082   |
| Class                | : | 9  |
| Packing Group        | : | III  |
| Proper Shipping Name | : | Environmental Hazardous Substance, Liquid n.o.s. (quizalofop-P-ethyl, solvent naphtha (petroleum) heavy aromatic solution) |

**ADR/RID**

|                      |   |  |
|----------------------|---|--|
| UN No.               | : | 3082   |
| Class                | : | 9  |
| Packing Group        | : | III  |
| Proper Shipping Name | : | Environmental Hazardous Substance, Liquid n.o.s. (quizalofop-P-ethyl, solvent naphtha (petroleum) heavy aromatic solution) |

**ADN/ADNR**

|                      |   |  |
|----------------------|---|--|
| UN No.               | : | 3082   |
| Class                | : | 9  |
| Packing Group        | : | III  |
| Proper Shipping Name | : | Environmental Hazardous Substance, Liquid n.o.s. (quizalofop-P-ethyl, solvent naphtha (petroleum) heavy aromatic solution) |

**15. REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU**

The product is regulated under the EU Directive(s) or Regulation(s) on plant protection products since it is one of plant protection products.

**Further Information**

WHO Classification : III (Slightly hazardous)

**15.2. Chemical safety assessment**

The chemical safety assessment has not been carried out for this product yet.



## 16. OTHER INFORMATION

### 16.1 Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008 [CLP]

| Classification according to Regulation (EC) No 1272/2008 [CLP] | Classification procedure |
|--|--------------------------|
| Causes serious eye damage, H318                                | On basis of test data    |

### 16.2 Relevant R-phrase and/or H-statements ( see Sec 2 and 3)

**Hazard Statement:** H302: Harmful if swallowed

H315: Causes skin irritation

H318: Causes serious eye damage

H319: Causes serious eye irritation

H304: May be fatal if swallowed and enters airways

H332: Harmful if inhaled

H400: Very toxic to aquatic life

H410: Very toxic to aquatic life with long lasting effects

**Precautionary Statement:** P280: Wear protective gloves/protective clothing/eye protection/ face protection

P310: Immediately call a POISON CENTER or doctor/physician

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

#### Supplementary statements

EUH066: Repeated exposure may cause skin dryness or cracking

EUH401: To avoid risks to human health and the environment comply with the instructions for use

This Material Safety Data Sheet is prepared in accordance with Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

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