Safety Data Sheet

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 Super**
Other names : Targa Super 5EC, Targa Prestige, Targa Gold, Nervure, MASTER D, PILOT
Code No. : NSG-12ND
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]

Acute tox. 4, H332
Aspiration hazard 1, H304
Sin sens. 1, H317
Eye dam. 1, H318
Aquatic acute 1, H400
Aquatic chronic 1, H410

2.2. Label elements

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

Hazard Pictogram:

Signal word:
Danger

Hazard Statement:
H332: Harmful if inhaled
H304: May be fatal if swallowed and enters airways
H317: May cause an allergic skin reaction
H318: Causes serious eye damage
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects

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. HAZARD IDENTIFICATION (continued)

Precautionary Statement:
P273: Avoid release to the environment
P391: Collect spillage
P501: Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

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 .....50 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-quinoxalinyl)oxy]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
EC No.	:	Not assigned

Inert Ingredient 1

Chemical Name	:	Calcium dodecylbenzene sulphonate
CAS No.	:	26264-06-2
Content	:	< 5% w/w
Classification in accordance with Regulation (EC) No 1272/2008:		
		Eye Dam.1, Skin irri.2
		H315, H318
REACH registration No.	:	Not disclosed
EC No.	:	247-557-8

Inert Ingredient 2

Chemical Name	:	Ethoxylated lauryl alcohol C12
CAS No.	:	9002-92-0
Content	:	< 25% w/w
Classification in accordance with Regulation (EC) No 1272/2008:		
		Acute Tox. 3, Eye Dam.1, Aquatic Acute. 1
		H302, H318, H400
REACH registration No.	:	Not disclosed
EC No.	:	500-002-6

Inert Ingredient 3

Chemical Name	:	Solvent naphtha (petroleum), super heavy aromatic (<1% naphthalene)
CAS No.	:	64742-94-5
Content	:	< 75% w/w
Classification in accordance with Regulation (EC) No 1272/2008:		
		Asp. Tox. 1, Aquatic Chronic.3
		H304, H412, EUH066
REACH registration No.:		01-2119451097-39
EC No.	:	922-153-0

3. COMPOSITION/INFORMATION OF INGREDIENTS (continued)

Inert Ingredient 4

Chemical Name	:	Solvent naphtha (petroleum), heavy aromatic (<1% naphthalene)
CAS No.	:	64742-94-5
Content	:	< 75% w/w
Classification in accordance with Regulation (EC) No 1272/2008:		
		Asp. Tox. 1, Aquatic Chronic.2, STOT SE 3
		H304, H411, EUH066, H336
REACH registration No.:		01-2119463583-34
EC No.	:	918-811-1

4. FIRST AID MEASURES

4.1. Description of first aid measures

Eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing (P305+351+338). Immediately call a POISON CENTER or doctor/physician (P310).

Skin contact : Remove all contaminated clothing, shoes and socks from the affected area. IF ON SKIN: Wash with plenty of soap and water (P302+P352). If skin irritation or rash occurs: Get medical advice/ attention (P333+P313).

Inhalation : IF INHALED: 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 : IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician (P301+P310). Do not induce vomiting (P331). Rinse mouth (P330). Do not given anything by mouth if person is unconscious. Seek emergency medical advice.

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. Contaminated work clothing should not be allowed out of the workplace (P272).

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. Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid contact with skin or eyes. Avoid breathing dust/fume/gas/mist/vapours/spray (P261). Protect containers against physical damage. Wear protective gloves / protective clothing /eye protection / face protection (P280). Do not eat, drink or smoke when using this product (P270). Prevent spillage from entering the drainage systems or watercourses. Take off contaminated clothing and wash it before reuse (P362+P364). Wash hands thoroughly after handling (P264).

7.2. Conditions for safe storage, including any incompatibilities

Store locked up (P405). 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^3 /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	:	Brownish oily clear liquid
Odour	:	Aromatic
pH	:	4.9 (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	:	76 °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	:	0.96 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	:	3.65 mm2 s-1 at 40°C (H304)
Vapor density	:	>1 (Solvent naphtha)
Auto-ignition temperature	:	415 °C
Decomposition temperature	:	Not available.

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_{50} (rats)	>2,000 mg/kg
Acute dermal toxicity	:	LD_{50} (rats)	>2,000 mg/kg
Acute inhalation toxicity	:	LC_{50} (rats)	2.91 mg/L (4 hrs.)
Eye irritation	:	(rabbits)	Irritant
Skin irritation	:	(rabbits)	Irritant (Not required H-phrase)
Sensitization	:	(guinea pigs)	Moderate skin sensitization

Quizalofop-P-ethyl active ingredient

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

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Product

Toxicity to fish	:	LC_{50} (96 h, Rainbow trout)	4.2 mg/L
Toxicity to *Daphnia*	:	EC_{50} (48 h, *Daphnia magna*)	6.87 mg/L
Toxicity to algae	:	EC_{50} (72 h, *S. capricornutum*)	0.45 mg/L
Toxicity to bees	:	LD_{50} (Oral/Contact, 48h, *Apis mellifera*)	>100 μg/bee
Toxicity to earthworm	:	14-day LC_{50} (*Eisenia foetida)*	746 mg/kg/soil

Quizalofop-P-ethyl active ingredient

Toxicity to fish	:	LC_{50} (96 h, Rainbow trout)	0.388 mg/L
		NOEC (21 days, Rainbow trout)	0.044 mg/L
Toxicity to *Daphnia*	:	EC_{50} (48 h, *Daphnia magna*)	0.29 mg/L
Toxicity to algae	:	EC_{50} (5 d, *S. capricornutum*)	0.021 mg/L
Toxicity to aquatic plants		EC_{50} (7 d, *Lemna gibba G3)*	0.0828 mg/L
Toxicity to earthworm	:	LC_{50} (*Eisenia foetida*)	>1,000 mg/kg soil
Toxicity to bird	:	LD_{50} (Bobwhite quail)	>2,000 mg/kg
	:	LD_{50} (Mallard duck)	>2,000 mg/kg
	:	LC_{50} (5d, Bobwhite quail)	>5,000 ppm diet
	:	LC_{50} (5d, Mallard duck)	>5,000 ppm diet
	:	NOEL (reproduction)	500 ppm 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.

12. ECOLOGICAL INFORMATION (continued)

12.2. Persistence and degradability (continued)

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

12.4. 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) : $K_F^{ads}oc$: 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 : DT50 : 4.5 hours

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Do not contaminate water, foodstuffs, feed or seed by disposal. Dispose of contents/container in according with all applicable regulations (P501).

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.

13. DISPOSAL CONSIDERATIONS (continued)

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

14.5. 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
Acute Tox. 4, H302	On basis of test data
Eye Dam.1 H318	On basis of test data
Skin Sens.1, H317	On basis of test data
Asp. Tox., H304	On basis of phisychem data
Aquatic Acute. 1, H400	
Aquatic Chronic. 1, H410	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
H304 May be fatal if swallowed and enters airways
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H318 Causes serious eye damage
H332 Harmful if inhaled
H336 May cause drowsiness or dizziness
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects
H411 Toxic to aquatic life with long lasting effects
H412 Harmful to aquatic life with long lasting effects

Supplementary statements: EUH401: To avoid risks to human health and the environment comply with the instructions for use
EUH066 Repeated exposure may cause skin dryness or cracking

Precautionary Statements: P273 Avoid release to the environment.
P391 Collect spillage
P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P330 Rinse mouth.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 Do NOT induce vomiting.
P405 Store locked up.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

16. OTHER INFORMATION (continued)

P362+P364 Take off contaminated clothing and wash it before reuse
P280 Wear protective gloves / protective 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 or doctor/physician

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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