

<b>Section 1 Chemical Product and Company Identification</b>				
Product Name	<b>Confirm 240F Insecticide</b>			
Chemical Name	Suspension concentrate containing Tebufenozide as active ingredient			
Primary Use	Insecticide for agricultural use			
Distributor	Name			
	Address			
	TEL. No.		Fax No.	
Manufacturer	Name	NIPPON SODA Co., Ltd		
	Address	2-1, Ohtemachi 2-Chome, Chiyoda - ku, Tokyo 100-8165, JAPAN		
	TEL. No.	+81-3-3245-6041	Fax No.	+81-3-3245-6287
Emergency	TEL. No	+1-703-527-3887 (CHEMTREC)	Fax No.	
Date Prepared	December 28, 2010		Date Revised	May 18, 2011

<b>Section 2 Hazardous Identification</b>			
Route of Entry	Skin : yes	Inhalation : yes	Ingestion : yes
Emergency Overview	Off-white liquid with mild odor. Harmful to aquatic life with lasting effects.		
Potential Health Effects			
Eye	Not irritant.		
Skin	Not irritant. Dermal sensitization is negative.		
Inhalation	Low acute inhalation toxicity at maximum practicable concentration (> 2.7 mg/L/4hr)		
Ingestion	Low acute oral toxicity.		
Signs and Symptoms	Not available		
Chronic	Chronic toxicity for Tebufenozide is the following. NOAEL(rat) : 5 mg/kg/day(male), 6 mg/kg/day(female) (2years) NOAEL(mouse) : 8 mg/kg/day(male), 9 mg/kg/day(female) (1.5 years)		
Target Organs	Tebufenozide, excessive exposure may cause methemoglobinemia, thereby impairing the blood's ability to transport oxygen. In animals, effects have been reported on the following organs: blood, blood-forming organs (bone marrow and spleen), kidney, and liver. For glycerine, in animals, effects have been reported in the following organs: gastrointestinal tract, kidney, and liver.		
Other comments	None		

<b>Section 3 Composition/Information on Ingredient</b>				
Component	%(wt.)	Exposure Limits		
		OSHA PEL	ACGIH TLV	Specified Other Limit
<u>Active Ingredient</u> <u>3,5-dimethylbenzoic acid</u> <u>1-(1,1-dimethylethyl)-2-(4-ethylbenzoyl)hydrazide</u> ISO name ; Tebufenozide (CAS No. ; 112410-23-8)	23.2	not listed	not listed	None



Glycerine (CAS No. 56-81-5)	10.0	Total dust 15mg/m <sup>3</sup> , Respirable fraction 5 mg/m <sup>3</sup>	10mg/m <sup>3</sup> Others: not listed	None
Balance	66.8	not listed	not listed	None

**Section 4 First Aid Measures**

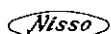
Eye	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
Skin	Remove contaminated clothing and shoes. Wash skin with soap and water. Call a physician if irritation persists.
Inhalation	Remove to fresh air and keep at rest in a position comfortable for breathing. If the victim feels unwell, call a physician.
Ingestion	Wash out mouth with water and call a physician. Don't induce vomiting without medical advice.
Note to Physicians	Administer 100% oxygen to relieve headache and a general sense of weakness. Determine methemoglobin concentration of blood every 3 to 6 hours for first 24 hours. It should return to normal within 24 hours. The treatment of toxic methemoglobinemia may include the intravenous administration of methylene blue. If methemoglobin is >10-20% consider methylene blue 1-2 mg/kg body weight as 1% solution IV over 5 minutes followed by 15-30 cc flush (Price D, Methemoglobinemia, Goldfrank Toxicologic Emergencies, 5th ed., 1994). Also provide 100% oxygen. Methemoglobinemia may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

**Section 5 Fire Fighting Measures**

Flammable Properties	Non-combustible.
Unusual Fire & Explosion Hazards	This product may evolve harmful and irritant gas and fume such as nitrogen oxides, carbon monoxide, carbon dioxide, isobutylene or organic compounds by being heated or on combustion.
Extinguishing Media	Carbon dioxide, foam, dry chemicals, water spray(fog)
Fire Fighting Instructions	Protective equipment Wear self-contained breathing apparatus and complete personal protective equipment for fire-fighting as it may evolve harmful and irritant gas/fume in heating or combusting. Fire-Fighting procedure Move containers away from fire area if it can be done without risk. If impossible to remove containers from fire zone, cool them with water spray.

**Section 6 Accidental Release Measures**

Protective equipment	Wear personal protective equipment. Refer to Section 8 for personal protective equipment.
Personal precaution	Avoid contact with skin, eye and clothing. Avoid breathing vapor or mist.
Environment precaution	Prevent from releasing it to the environment because this product is harmful to aquatic organisms.
Cleaning procedure	Bank up sand or soil around spill site to prevent from flowing out to environment. (large quantities) Remove with vacuum truck.

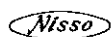


(small quantities) Use inert absorbent such as vermiculite and sand to complete pick up.  
Wash spill site with soap and plenty of water after material pick-up is complete.  
Scoop up spill with shovel and place in a closable containers and hold for waste disposal.  
Use inert absorbent such as vermiculite and sand to complete pick up.  
Wash spill site with soap and plenty of water after material pick-up is complete.  
Obey Federal, State or local regulations for health & safety and environment protection in treating spill.  
Refer to heading 8 and 13 if appropriate.

<b>Section 7 Handling and Storage</b>	
Handling	Wear personal protective equipment. Refer to Section 8 for personal protective equipment. Avoid contact with skin, eye and clothing. Avoid breathing vapor or mist. Do not handle this product near food, feed or drinking water. Wash thoroughly after handling. Avoid releasing this product to environment.
Storage	Keep in container tightly closed. Store in a cool, dry, well-ventilated place. Do not store this product near food, feed or drinking water. Keep away from direct sunlight, oxidizing agents, foods, drink and animal feedingstuffs.

<b>Section 8 Exposure Control/Personal protection</b>			
Airborne Exposure Guidelines for Ingredients Glycerine: ACGIH TLV 10mg/m <sup>3</sup> (2010) OSHA (mist) Total dust 15mg/m <sup>3</sup> , Respirable fraction 5 mg/m <sup>3</sup> (2010)			
Specific Engineering Controls	Use general and/or local exhaust ventilation to control vapor and mist. Provide safety shower and eye washes in work area.		
Personal Protection Equipment			
Respiratory	Suitable respirator for organic vapor	Eye/Face	Safety goggles
Gloves	Gloves such as rubber or polyvinyl chloride.	Clothing	Working cloths with long sleeves and long pants
Footwear	Working shoes with socks	Others	None

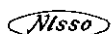
<b>Section 9 Physical and Chemical Properties</b>			
Appearance	Off-white liquid	Odor	Mild odor
Specific Gravity(water=1)	1.05 (25°C)	Bulk Density	Not applicable
Melting Point	-9 °C	Boiling Point	100°C (Water)
Vapor Density (air=1)	< 1 (water)	Vapor pressure	4.0 × 10 <sup>-6</sup> Pa (20°C) <sup>1)</sup>
Evaporation Rate (Ethyl acetate=1)	< 1 (water)	pH	6.0 to 7.5
Solubility in water	Dispersible	Solubility in solvent	Not available
Log Po/w	Log P <sub>o/w</sub> = 4.25 (as active ingredient)	Viscosity	300 to 600 CPS
Flash Point	Non-combustible	Autoignition Temp.	Not-combustible



Explosion limit	Lower limit	Not applicable	Upper limit	Not applicable
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<b>Section 10 Stability and Reactivity</b>			
Chemical Stability	Stable	X	If unstable, condition to avoid unstable reaction Stable under normal storage conditions.
	Unstable		
Hazardous Polymerization	Will not Occur	X	
	May Occur		
Reactivity	May react with strong oxidizing agents.		
Incompatible Materials	Avoid contact with strong oxidizing agents.		
Hazardous Decomposition Product	Thermal decomposition may produce nitrogen oxides, carbon monoxide, carbon dioxide and isobutylene.		
Others	None		

<b>Section 11. Toxicological Information</b>
<p>Effect of Acute Exposure</p> <p>Oral LD<sub>50</sub>(rat) : &gt; 5000mg/kg  Dermal LD<sub>50</sub>(rat) : &gt; 5000 mg/kg  Inhalation LC<sub>50</sub>(rat) : &gt; 2.7 mg/L(4hr) (maximum practicable concentration)</p>
<p>Effect of Chronic Exposure</p> <p>Chronic toxicity (active ingredient)</p> <p>NOAEL(rat) : 5 mg/kg/day(male), 6 mg/kg/day(female) (2years)  NOAEL(mouse) : 8 mg/kg/day(male), 9 mg/kg/day(female) (1.5 years)</p>
<p>Irritancy</p> <p>Dermal (rabbit): Not irritant.  Eye (rabbit) : Not irritant.</p>
<p>Sensitization</p> <p>Dermal (guinea pigs): Negative.</p>
<p>Mutagenicity (Tebufenozide)</p> <p>Ames test: Negative  Chromosomal aberration test: Negative  For Tebufenozide, in-vitro and animal genetic toxicity studies were negative.  Glycerine, in vitro genetic toxicity studies were negative.</p>
<p>Teratogenicity</p> <p>Tebufenozide: Negative (rat), Negative (mouse)  Glycerine did not cause birth defects or any other fetal effects in laboratory animals.</p>
<p>Reproductive Toxicity</p> <p>Tebufenozide: Negative (rat)  Glycerine: Reproductive effects seen in female animals are believed to be due to altered nutritional states resulting from extremely high doses of glycerine given in the diet. Similar effects have been seen in animals fed synthetic diets.</p>



Carcinogenicity (as active ingredient)	NTP not listed	IARC Monograph not listed	ACGIH Regulated not listed
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**Carcinogenicity test**

Tebufenozide: Negative (rat)

Negative (mouse)

Tebufenozide and glycerine did not cause cancer in laboratory animals.

**Others**

Systemic (Other target organ) effects

For Tebufenozide, in animals, effects have been reported on the following organs: blood, blood-forming organs (bone marrow & spleen), kidney, and liver. May cause methemoglobinemia, thereby impairing the blood's ability to transport oxygen. For glycerine, in animals, effects have been reported on the following organs: gastrointestinal tract.

**Section12 Ecological Information****Environmental Fate**

The data for Tebufenozide is the following.

Bio-Degradability (as active ingredient) : Not readily biodegradable

Stability in Water (1/2-life):

pH 4, 20 °C: 1166 d

pH 7, 20 °C: 529 d

pH 10, 20 °C: 34 d

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
1 %	28 d	OECD 301C Test

Bio-accumulative potential: Bioconcentration potential is low.

BCF(Bluegillsunfish): 42-70

Partition coefficient, soil organic carbon/water (Koc): 572 Measured

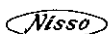
Inhibitory concentration (IC50) in OECD Activated Sludge Respiration Inhibition Test (OECD Test No.209) is &gt; 1000 mg/L.

Other adverse effects: Not available

**Ecological Toxicity****Acute Toxicity for Fish**Rainbow trout (*Oncorhynchus mykiss*): LC<sub>50</sub> > 100 mg/L (96hrs)**Acute Toxicity for Invertebrate**Daphnia magna: EC<sub>50</sub> > 1.8 mg/L (48hrs)EC<sub>50</sub> 3.8 mg/L (48hrs) (as Tebufenozide TG)**Acute Toxicity for Algae:**ErC<sub>50</sub> > 95 mg/L (72hrs)

Harmful to aquatic life with lasting effects

**Toxicity to Soil Dwelling Organisms (Tebufenozide TG)**Earthworm *Eisenia foetida*, adult: LC<sub>50</sub> > 1000 mg/kg (14 d)Tebufenozide TG is practically non-toxic to birds on a dietary basis (LC<sub>50</sub> > 5000 ppm) and on an acute basis (LD<sub>50</sub> > 2150 mg/kg).

**Section 13 Disposal Considerations**

- 1) Burn it in a chemical incinerator equipped with an afterburner and an alkaline scrubber by absorbing with sawdust or dissolving in combustible solvent, in accordance with Federal, State or local regulation.
- 2) Do not discharge into waterway or sewer systems unless permission has been obtained by the local authority and suitable dilution has been established.
- 3) Contaminated empty containers must be disposed of as chemical waste.
- 4) Obey all Federal, State and local regulations for health & safety and environmental protection in treating the waste.

**Section 14 Transport Information**

International marine transportation(IMDG)

Not classified as dangerous goods in IMDG Code.

Marine pollutant: Not applicable

ICAO/IATA Dangerous Goods Regulations

Not classified as dangerous goods in ICAO-IATA-DGR.

DOT Regulations

Not classified as dangerous goods in DOT Regulations.

Emergency Response Guide No. None

**Section 15 Regulatory Information**

TSCA	All ingredients are on the TSAC inventory or are not required to be listed on the TSCA inventory.
OSHA (highly hazardous chemicals)	All ingredients are not listed.
SARA (extremely hazardous substance)	All ingredients are not listed.
CERCLA (Hazardous Substance)	All ingredients are not listed.
Others	None

**Section 16 Other Information**

Label Information

NFPA Rating : Health ; 1 Flammability; 0 Instability; 0

Regulatory Information in other area

	Tebufenozide	Glycerine
ENCs(JAPAN)	Not listed (not applicable for pesticide)	Listed (2-242)
EINECS(EU)	Listed (412-850-3)	Listed (200-289-5)
DSL(Canada)	Not listed	Listed
ECL(Korea)	Not listed	Listed (KE-29297)
IECSC(China)	Not listed	Listed

Revised Information

This MSDS was prepared according to ANSI Z400.1-2003

Reference

- 1) Budavari, S., (Ed), The Merck Index Ver.12:2



**NIPPON SODA CO.,LTD.**

***Material Safety Data Sheet***

MSDS No. Confirm 240F Insecticide

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