

# Material Safety Data Sheet

## Material Safety Data Sheet / Inpool Dry Flowable

Issue Date : April 25, 2011  
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Version No. : 6

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

#### 1.1 Product identifier

Name of product : **Inpool Dry Flowable**  
Other names : Halosulfuron-methyl 75WG , Inpool DF, Inpul, Servian, Sempra, Permit  
NC-319 75% WG, NC-319 WG75  
Type of formulation : Water dispersible granule (WG)

#### 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 & Supplier:** Nissan Chemical Industries, Ltd.  
Kowa Hitotsubashi Building, 7-1, 3-chome, Kanda-Nishiki-cho, Chiyoda-ku, Tokyo 101-0054 Japan  
Contact person: Mr. Koji Usuda  
Phone: +81-(0)-3-3296-8151, Fax: +81-(0)-3-3296-8016

#### 1.4. Emergency telephone number

Nissan Chemical Industries, Ltd.: +81-(0)-3-3296-8151 (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]

Aquatic Acute 1, H400  
Aquatic Chronic 1, H410

##### Classification in accordance with Council Directive 1999/45/EC

N- Dangerous for the environment, R50/53

#### 2.2. Label elements

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

Hazard Pictogram:



Signal Word:  
Danger

Hazard Statement:  
H400: Very toxic to aquatic life  
H410: Very toxic to aquatic life with long lasting effects

Precautionary Statement:  
P273: Avoid release to the environment  
P391: Collect spillage  
P501: Dispose of contents/container in accordance with local regulation

#### 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:**

Halosulfuron-methyl ..... 750 g/kg (75 % w/w)  
Inert ingredients ..... balance

**Active Ingredient**

Common Name : Halosulfuron-methyl  
Code No. : NC-319  
CAS No. : 100784-20-1  
Chemical Name (CA) : 1*H*-Pyrazole-4-carboxylic acid, 3-chloro-5-[[[(4,6-dimethoxy-2-pyrimidinyl)amino]carbonyl]amino]sulfonyl]-1-methyl-, methyl ester (9CI)  
(IUPAC) : Methyl 3-chloro-5-(4,6-dimethoxypyrimidin-2-ylcarbamoylsulfamoyl)-1-methylpyrazole-4-carboxylate

Classification in accordance with Council Directive 67/548/EEC:

N: Dangerous for the environment.  
R50/53

Classification in accordance with Regulation (EC) No 1272/2008:

Aquatic Acute 1 (M-factor: 1000), Aquatic Chronic 1  
H400, H410

REACH registration No. : Not assigned

EINECS or ELINCS No. : Not available

**4. FIRST AID MEASURES****4.1. Description of first aid measures**

**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. Wash material off the skin in flowing water or shower with soap. If irritation persists, consult a physician immediately.

**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** : Do not induce vomiting. Wash out mouth with water. 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 and sulfur are potential thermal decomposed products.

## **5. FIRE-FIGHTING MEASURES (continued)**

### **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. Do not breathe dust. Avoid contact with skin or eyes. Protect containers against physical damage. Wear suitable protective clothing, shoes, gloves and goggle during handling. 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) : Not established.

### **8.2. Exposure controls**

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

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	: Pale brown granular solid
Odour	: Odorless
pH	: 4.9 (1% w/v suspension)
Melting point/melting range	: Not required
Boiling point/boiling range	: Not applicable since the product is solid at ambient temperature.
Flash point	: Not applicable since the product is solid at ambient temperature.
Evaporation rate	: Not applicable since the product is solid at ambient temperature.
Flammability	: Not flammable
Explosive properties	: Not explosive
Oxidising properties	: Not oxidising
Vapor pressure	: $< 1 \times 10^{-7}$ mmHg at 25°C (halosulfuron-methyl)
Relative density	: 0.66 g/ml (tap density)
Solubility	: Toluene 3.640 g/L, Methanol 1.616 g/L, Acetone 21.96 g/L, Ethyl acetate 15.26 g/L at 20°C (halosulfuron-methyl)
Water solubility	: 0.015 g/L in pH 5 buffer, 1.65 g/L in pH 7 buffer, 0.01 g/L in pure water (pH 6.5) at 20°C (halosulfuron-methyl)
Partition coefficient (n-octanol/water)	: $\log P_{ow}$ (n-octanol/water) = 1.67 at pH 5 and 22.8 °C (halosulfuron-methyl)
Viscosity	: Not applicable since the product is solid at ambient temperature.
Vapor density	: Not applicable since the product is solid at ambient temperature.
Auto-ignition temperature	: Not self-igniting below 400°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, sulfur oxides and halogenated compounds.

## 11. TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Product

Acute oral toxicity	: LD <sub>50</sub> (rats)	>2,000 mg/kg
Acute dermal toxicity	: LD <sub>50</sub> (rats)	>2,000 mg/kg
Acute inhalation toxicity	: LC <sub>50</sub> (rats)	>5.7 mg/L (4 hrs.)
Eye irritation	: (rabbits)	Not irritant
Skin irritation	: (rabbits)	Not irritant
Sensitization	: (guinea pigs)	Not a sensitizer

## 11. TOXICOLOGICAL INFORMATION

### Halosulfuron-methyl active ingredient

<b>Toxicokinetics, metabolism and distribution</b>	:	Rapidly absorbed ( $C_{max}$ 0.5 hr) and high bioavailability. Widely distributed, but rapidly excreted. No evidence for accumulation.
<b>Short-term oral toxicity (90 days)</b>	:	NOAEL (rats) 1,600 mg/kg diet NOEL (dogs) 10 mg/kg/day
<b>Short-term oral toxicity (1 year)</b>	:	NOAEL (dogs) 10 mg/kg/day
<b>Short-term dermal toxicity (21 days)</b>	:	NOEL (rats) 100 mg/kg/day
<b>Chronic/Carcinogenicity (1.5 years/mice)</b>	:	NOAEL (toxicity) 3,000 mg/kg diet NOEL (tumour) 7,000 mg/kg diet Not carcinogenic
<b>Chronic/Carcinogenicity (2 years/rats)</b>	:	NOAEL (toxicity) 1,000 mg/kg diet NOEL (tumour) >2,500 mg/kg diet Not carcinogenic
<b>Reproductive toxicity (rats)</b>	:	NOEL (toxicity) 800 mg/kg diet NOEL (reproduction) 3,600 mg/kg diet No effects on reproduction
<b>Developmental toxicity (rats)</b>	:	NOEL (toxicity) 250 mg/kg/day NOEL (development) 250 mg/kg/day Not teratogenic
<b>Developmental toxicity (rabbits)</b>	:	NOEL (toxicity) 50 mg/kg/day NOEL (development) 50 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

<b>Toxicity to fish</b>	:	LC <sub>50</sub> (96 h, Rainbow trout) >134 mg/L
<b>Toxicity to <i>Daphnia</i></b>	:	EC <sub>50</sub> (48 h, <i>Daphnia magna</i> ) 166 mg/L
<b>Toxicity to algae</b>	:	EC <sub>50</sub> (72 h, <i>S. capricornutum</i> ) 0.006 mg/L
<b>Toxicity to bees</b>	:	LD <sub>50</sub> (Oral/Contact, 48h, <i>Apis mellifera</i> ) >100 µg/bee
<b>Toxicity to earthworm</b>	:	Not available

#### Halosulfuron-methyl active ingredient

<b>Toxicity to fish</b>	:	LC <sub>50</sub> (96 h, Rainbow trout) >131 mg/L LC <sub>50</sub> (96 h, Bluegill) >118 mg/L
<b>Toxicity to <i>Daphnia</i></b>	:	EC <sub>50</sub> (48 h, <i>Daphnia magna</i> ) >107 mg/L
<b>Toxicity to algae</b>	:	EC <sub>50</sub> (5 d, <i>S. capricornutum</i> ) 0.0053 mg/L
<b>Toxicity to aquatic plants</b>	:	EC <sub>50</sub> (7 d, <i>Lemna gibba</i> G3) 0.000217 mg/L
<b>Toxicity to earthworm</b>	:	LC <sub>50</sub> ( <i>Eisenia foetida</i> ) >1,000 mg/kg soil
<b>Toxicity to bird</b>	:	LD <sub>50</sub> (Bobwhite quail) >2,250 mg/kg LC <sub>50</sub> (5d, Bobwhite quail/Mallard duck) >5,620 mg/kg LC <sub>50</sub> (5d, Mallard duck) >5,620 mg/kg NOEL (reproduction) >1,000 mg/kg diet
<b>Soil micro-organism</b>	:	No effects on soil nitrification and respiration
<b>Sewage treatment</b>	:	No adverse effect in sewage sludge organisms

### 12.2. Persistence and degradability

#### Product

No information is available for the product.

#### Halosulfuron-methyl active ingredient

Halosulfuron-methyl is relatively stable in hydrolysis and photolysis in acidic media, but degraded in soils and water/sediment systems.

<b>Hydrolysis (25°C)</b>	:	DT <sub>50</sub> 27 days at pH5, 14 days at pH7 and <1 day at pH9
<b>Aqueous photolysis (25°C)</b>	:	DT <sub>50</sub> 24 days at pH5 (natural sunlight)
<b>Degradation in soil (20°C)</b>	:	DT <sub>50</sub> 17-33 days (aerobic flooded condition)
<b>Degradation in water/sediment (20°C)</b>	:	DT <sub>50</sub> 10.4 days
<b>Ready biodegradability</b>	:	Poorly degradable

## **12. ECOLOGICAL INFORMATION (continued)**

### **12.3. Bioaccumulative potential**

#### **Product**

No information is available for the product.

#### **Halosulfuron-methyl 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 low log  $P_{ow}$  values.

**Partition coefficient** : log  $P_{ow}$  (23°C) 1.67 at pH5, -0.0186 at pH7, -0.542 at pH9 (unstable)  
(n-octanol/water)

**Bioconcentration** : BCF Not required due to low partition coefficient

### **12.4. Mobility in soil**

#### **Product**

No information is available for the product.

#### **Halosulfuron-methyl active ingredient**

Adsorption/desorption of halosulfuron-methyl was determined with 4 soil types, a range of clay content (4-31%), pH values (5.8-8.0 in water) and organic carbon contents (0.58-2.0%). Halosulfuron-methyl was weakly desorbed and had a high affinity for each soil type.

**Adsorption/desorption** : Halosulfuron-methyl  $K_{f_{oc}}^{abs}$  : 31 - 199 (medium to high potential for 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.

#### **Halosulfuron-methyl 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**

Not available.

## **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**

3077

### **14.2. UN proper shipping name**

Environmentally hazardous substance, solid, n.o.s. (halosulfuron-methyl)

### **14.3. Transport hazard class(es)**

Class 9

## **14. TRANSPORT INFORMATION (continued)**

### **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. : 3077  
Class : 9  
Packing group : III  
Hazard label : Miscellaneous  
Marine Pollutant Label : Marine Pollutant  
Proper shipping name : Environmentally hazardous substance, solid, n.o.s. (halosulfuron-methyl)

#### **ICAO/IATA**

UN no. : 3077  
Class : 9  
Packing group : III  
Proper shipping name : Environmentally hazardous substance, solid, n.o.s. (halosulfuron-methyl)

#### **ADR/RID**

UN no. : 3077  
Class : 9  
Packing group : III  
Proper shipping name : Environmentally hazardous substance, solid, n.o.s. (halosulfuron-methyl)

#### **ADN/ADNR**

UN no. : 3077  
Class : 9  
Packing group : III  
Proper shipping name : Environmentally hazardous substance, solid, n.o.s. (halosulfuron-methyl)

## **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)

JAPAN This product for use of pesticides is controlled under Agricultural Chemicals Regulation Law.  
Not classified under Poisonous and Deleterious Substances Control Law

US EPA A similar formulation of halosulfuron-methyl containing 75% w/w.  
Category III, "Caution", Precautionary statement : Harmful if absorbed through skin  
This substance is under control of FIFRA : EPA Reg. No. 33906-12

### **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
Aquatic Acute. 1, H400	On basis of test data
Aquatic Chronic. 1, H410	On basis of acute data

**16.2 Relevant R-phrases and/or H-statements ( see Sec 2 and 3)**

**Hazard Statement:** H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.

**Precautionary Statement:** P273: Avoid release to the environment  
P391: Collect spillage  
P501: Dispose of contents/container in accordance with local regulation

**Risk phrases:** 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 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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