INSTRATA

Version 2 - This version replaces all previous versions.
Revision Date 25.01.2011

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

1.1 Product identifier

Product name : INSTRATA

Design code : A14036B

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

Use : Fungicide

1.3 Details of the supplier of the safety data sheet

Company Syngenta UK Limited
CPC4, Capital Park
Fulbourn, Cambridge
CB21 5XE

Telephone : (01223) 883400

Telefax : (01223) 882195

Website : www.greencast.co.uk

1.4 Emergency telephone number

: +44 (0) 1484 538444

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EU) 1272/2008

Skin irritation	Category 2	H315
Skin sensitization	Category 1	H317
Eye irritation	Category 2	H319
Carcinogenicity	Category 2	H351
Acute toxicity (Inhalation)	Category 4	H332
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 1	H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xn, Harmful
N, Dangerous for the environment
R20: Harmful by inhalation.
R36/38: Irritating to eyes and skin.
R40: Limited evidence of a carcinogenic effect.
R43: May cause sensitization by skin contact.
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

Labelling: Regulation (EC) No. 1272/2008

Hazard pictograms

Signal word	Warning	
Hazard statements	:H315	Causes skin irritation.
	:H317	May cause an allergic skin reaction.
	:H318	Causes serious eye damage.
	:H332	Harmful if inhaled.
	:H351	Suspected of causing cancer.
	:H410	Very toxic to aquatic life with long lasting effects.
Precautionary statements	:P102	Keep out of reach of children.
	:P270	Do not eat, drink or smoke when using this product.
	:P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
	:P302/P352	IF ON SKIN: Wash with plenty of soap and water.
	: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.
Supplemental Information	:EUH401	To avoid risks to human health and the environment comply with the instructions for use.

Hazardous components which must be listed on the label:

- chlorothalonil
- propiconazole

Labelling: EU Directives 67/548/EEC or 1999/45/EC

Symbol(s)

HARMFUL DANGEROUS FOR THE ENVIRONMENT

R-phrase(s)

R20	Harmful by inhalation.
R36/38	Irritating to eyes and skin
R40	Limited evidence of a carcinogenic effect.
R43	May cause sensitization by skin contact.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)	S2	Keep out of the reach of children
	S13	Keep away from food, drink and animal feedingstuffs
	S20/21	When using do not eat, drink or smoke
	S23	Do not breathe spray.
	S35	This material and its container must be disposed or in a safe way
	S36/37	Wear suitable protective clothing and gloves.
	S57	Use appropriate containment to avoid environmental contamination
Special labelling of certain mixtures		To avoid risks to man and the environment, comply with instructions for use.

Hazardous components which must be listed on the label:

- chlorothalonil
- propiconazole

2.3 Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration
chlorothalonil	1897-45-6 217-588-1	T+, N R26 R37 R40 R41 R43 R50/53	Carc.2; H351 Acute Tox.2; H330 Acute Tox.2; H330 STOT SE3; H335 Eye Dam.1; H318 Skin Sens.1; H317 Aquatic Acute1; H400 Aquatic Chronic1; H410	29.9 % w/w
propiconazole	60207-90-1 262-104-4	Xn, N R22 R43 R50/53	Acute Tox.4; H302 Skin Sens.1; H317 Aquatic Acute1; H400 Aquatic Chronic1; H410	4.7 % w/w
fludioxonil	131341-86-1	N R50/53	Aquatic Acute1; H400 Aquatic Chronic1; H410	1.2 % w/w
Poly(oxy-1,2-ethanediyl), alpha-[tris(1-phenylethyl) phenyl]-omega-hydroxy	99734-09-5 70559-25-0	R52/53	Aquatic Chronic3; H412	1 – 5 % w/w
poly(oxy-1,2- ethanediyl), alpha- phosphono-omega-[2,4,6- tris(1-phenylethyl)phenoxy]-	90093-37-1 114535-82-9	Xi R36	Eye Irrit.2; H319	1 – 5 % w/w
Propane-1,2-diol	57-55-6 200-338-0	-	-	0 – 1 % w/w

Substances for which there are Community workplace exposure limits.
For the full text of the R-phrases mentioned in this Section, see Section 16.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice	:	Have the product container, label or Material Safety Data Sheet with you when calling the Syngenta emergency number, a poison control center or physician, or going for treatment.
Inhalation	:	Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or poison control centre immediately.
Skin contact	:	Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.
Eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.
Ingestion	:	If swallowed, seek medical advice immediately and show this container or label. Do **NOT** induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed symptoms:

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Medical advice :There is no specific antidote available. Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Use alcohol-resistant foam or water spray.
Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.

5.3 Advice for fire-fighters:

Wear full protective clothing and self-contained breathing apparatus. Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions:

Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

Contain and collect spillage with an electrically protected vacuum cleaner or by

wet-brushing and transfer to a container for disposal according to local (see section 13). Do not create a powder cloud by using a brush or compressed air. Clean contaminated surface thoroughly. If the product contaminates rivers and lakes or drains inform respective authorities.

6.4 Reference to other sections

Refer to protective measures listed in sections 7 and 8.
Refer to disposal considerations listed in section 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

No special protective measures against fire required.Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

7.3 Specific end use(s)

Registered Crop Protection products: For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components	Exposure limit(s)	Type of exposure limit	Source
chlorothalonil	0.1 mg/m3	8 h TWA	SYNGENTA
propiconazole	8 mg/m3	8 h TWA	SYNGENTA
fludioxonil	10 mg/m3	8 h TWA	SYNGENTA
propane-1,2-diol	10 mg/m3 (Particulates) 150 ppm, 470 mg/m3 (Total (vapour & particulates))	8 h TWA 8 h TWA	UK HSE UK HSE

The following recommendations for exposure controls/personal protection are intended for the manufacture, formulation and packaging of the product.

8.2 Exposure controls

Engineering measures : Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. If airborne dust is generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit. Where necessary, seek additional occupational hygiene advice.

Protective measures The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice. Personal protective equipment should be certified to appropriate standards.

Respiratory protection A particulate filter respirator may be necessary until effective technicalmeasures are installed. Protection provided by air-purifying

	respirators is limited. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.
Hand protection	Chemical resistant gloves should be used. Gloves should be certified to an appropriate standard. Gloves should have a minimum breakthrough time that is appropriate to the duration of exposure. The breakthrough time of gloves varies according to the thickness, material and manufacturer.Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Suitable material Nitrile rubber.
Eye protection	If eye contact is possible, use tight-fitting chemical safety goggles.
Skin and body protection	Assess the exposure and select chemical resistant clothing based on the potential for contact and the permeation / penetration characteristics of the clothing material. Wash with soap and water after removing protective clothing. Decontaminate clothing before re-use, or use disposable equipment (suits, aprons, sleeves, boots, etc.). Wear as appropriate: impervious protective suit..

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical State	:	Liquid
Form	:	liquid
Colour	:	grey
Odour	:	aromatic
Odour Threshold	:	No data available
pH	:	5.5 at 1 % w/v (25 ºC)
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	> 100 ºC at 741 – 749 mmHg Pensky-Martens c.c.
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Lower explosion limit	:	No data available
Upper explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	1.20 g/ml at 20 ºC
Solubility in other solvents	:	No data available
Partition Coefficient n-octanol/water	:	No data available
Autoignition temperature	:	>650 ºC
Thermal decomposition	:	No data available
Viscosity, dynamic	:	903 mPa.s at 20 ºC
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Not oxidising

9.2 Other Information

: No data available

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity : No information available

10.2	**Chemical Stability**	:	No information available
10.3	**Possibility of hazardous reactions**	:	None known. Hazardous polymerisation does not occur.
10.4	**Conditions to avoid**	:	No information available
10.5	**Incompatible materials**	:	No information available
10.6	**Hazardous decomposition products**	:	Combustion or thermal decomposition will evolve toxic and irritant vapours.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity	:	LD50 female rat, 5,000 mg/kg
Acute inhalational toxicity	:	LC50 male rat, 0.52 – 2.01 mg/l , 4 h.
Acute dermal toxicity	:	LD50 male and female rat, > 5,000 mg/kg.
Skin corrosion/irritation	:	rabbit: irritating
Serious eye damage/eye irritation	:	rabbit: irritating
Respiratory or skin sensitisation	:	Buehler Test guinea pig: a skin sensitizer.
Germ cell mutagenicity		
chlorothalonil	:	Did not show mutagenic effects in animal experiments.
propiconazole		Did not show mutagenic effects in animal experiments.
fludioxonil		Did not show mutagenic effects in animal experiments.
Carcinogenicity		
Chlorothalonil	:	Chlorothalonil causes kidney tumours in rats and mice via a non-gentoxic mode of action secondary to target organ toxicity.
propiconazole		Did not show carcinogenic effects in animal experiments.
fludioxonil		Did not show carcinogenic effects in animal experiments.
Reproductive toxicity		
chlorothalonil	:	Did not show reproductive toxicity effects in animal experiments.
propiconazole		Did not show reproductive toxicity effects in animal experiments.
fludioxonil		Did not show reproductive toxicity effects in animal experiments.
STOT – single exposure		The substance or mixture is not classified as specific target organ toxicant, single exposure.
STOT – repeated exposure		
chlorothalonil	:	No adverse effect has been observed in chronic toxicity tests.
propiconazole		No adverse effect has been observed in chronic toxicity tests.
fludioxonil		No adverse effect has been observed in chronic toxicity tests.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	:	LC50 *Oncorhynchus mykiss* (rainbow trout), 0.155 mg/l, 96 h
Toxicity to aquatic invertebrates	:	EC50 *Daphnia magna* (water flea), 0.45 mg/l, 48 h
Toxicity to aquatic plants	:	EbC50 *Pseudokirchneriella subcapitata* (green algae), 0.36 mg/l, 72 h ErC50 *Pseudokirchneriella subcapitata* (green algae), 2.05 mg/l, 72 h

12.2 Persistence and degradability

Biodegradability		
fludioxonil	:	Not readily biodegradable.
Stability in water	:	
chlorothalonil		Degradation half life: < 5 dat 20 °C. Not persistent in water

propiconazole		Degradation half life: 28 - 64 d. Stable in water
fludioxonil		Degradation half life: 450 - 700 d. Stable in water.
Stability in soil	:	
Chlorothalonil		Degradation half life : ca. 7 d. Not persistent in soil.
Propiconazole		Degradation half life : 66 - 170 d. Not persistent in soil.
fludioxonil		Degradation half life : 14 d. Not persistent in soil.

12.3 Bioaccumulative potential

chlorothalonil	:	Chlorothalonil has low potential for bioaccumulation
propiconazole		Low to medium mobility in soil.
fludioxonil		Does not bioaccumulate.

12.4 Mobility in soil

chlorothalonil	:	Chlorothalonil has low to slight mobility in soil
propiconazole		Low to medium mobility in soil.
fludioxonil		Fludioxonil is immobile in soil.

12.5 Results of PBT and vPvB assessment

: This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product	:	Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.
Contaminated packaging	:	Empty remaining contents. Triple rinse containers. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

Land transport (ADR/RID)

14.1	**UN Number**	**:**	UN 3082
14.2	**UN proper shipping name**	**:**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(CHLOROTHALONIL AND FLUDIOXONIL)
14.3	**Transport hazard class(es)**	**:**	9
14.4	**Packing Group**	**;**	III
Labels		:	9
14.5	**Environmental hazards**	:	Environmentally hazardous

Sea transport(IMDG)

14.1	**UN Number**	**:**	UN 3082
14.2	**UN proper shipping name**	**:**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(CHLOROTHALONIL AND FLUDIOXONIL)
14.3	**Transport hazard class(es)**	**:**	9
14.4	**Packing Group**	**;**	III
Labels		:	9
14.5	**Environmental hazards**	:	Marine pollutant

Airtransport(IATA-DGR)

14.1	**UN Number**	**:**	UN 3082

14.2	**UN proper shipping name**	**:**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(CHLOROTHALONIL AND FLUDIOXONIL)
14.3	**Transport hazard class(es)**	**:**	9
14.4	**Packing Group**	**;**	III
Labels		:	9
14.6	**Special precautions for user**	:	none

14.6 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

GHS-Labelling

Signal word	Warning	
Hazard statements	:H315	Causes skin irritation.
	:H317	May cause an allergic skin reaction.
	:H318	Causes serious eye damage.
	:H332	Harmful if inhaled.
	:H351	Suspected of causing cancer.
	:H410	Very toxic to aquatic life with long lasting effects.
Precautionary statements	:P102	Keep out of reach of children.
	:P270	Do not eat, drink or smoke when using this product.
	:P280	Wear protective gloves/ protective clothing/ eye protection/face protection.
	:P302/P352	IF ON SKIN: Wash with plenty of soap and water.
	: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.
Supplemental Information	:EUH401	To avoid risks to human health and the environment comply with the instructions for use.

Hazardous components which must be listed on the label:

- chlorothalonil
- propiconazole

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16. OTHER INFORMATION

Approval number, MAPP 16458.
Use plant protection products safely. Always read the label and product information before use.

Based upon SDS release dated 25/01/2011, version 2 with local amendment.

Full text of R-phrases referred to under sections 2 and 3:

R22	Harmful if swallowed.
R26	Very toxic by inhalation.
R36	Irritating to eyes.
R37	Irritating to respiratory system.
R40	Limited evidence of a carcinogenic effect.
R41	Risk of serious damage to eyes.
R43	May cause sensitization by skin contact.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.