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

1.1 Product identifier

Trade name	PACIFICA PLUS
Product code (UVP)	80008880

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

Use	Herbicide

1.3 Details of the supplier of the safety data sheet

Supplier	Bayer CropScience Limited 230 Cambridge Science Park Milton Road Cambridge Cambridgeshire CB4 0WB United Kingdom
Telephone	+44(0)1223 226500
Telefax	+44(0)1223 426240
Responsible Department	Email: ukinfo@bayercropscience.com

1.4 Emergency telephone no.

Emergency telephone no.	0800-220876 (UK 24 hr)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Serious eye damage: Category 1
H318 Causes serious eye damage.

Skin sensitisation: Category 1
H317 May cause an allergic skin reaction.

Acute aquatic toxicity: Category 1
H400 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 1
H410 Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

- Amidosulfuron-sodium
- Iodosulfuron-methyl-sodium
- Mesosulfuron-methyl, sodium salt
- Mefenpyr-diethyl

Signal word: Danger

Hazard statements

H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H410	Very toxic to aquatic life with long lasting effects.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements

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.
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
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

No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical nature

Water dispersible granules (WG)
Amidosulfuron/Iodosulfuron-methyl -sodium/Mesosulfuron -methyl/Mefenpyr-diethyl 5,0:1,0:3,0:9,0 %

Hazardous components

Hazard statements according to Regulation (EC) No. 1272/2008

Name	CAS-No. / EC-No. / REACH Reg. No.	Classification REGULATION (EC) No 1272/2008	Conc. [%]
Amidosulfuron-sodium	596120-00-2	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	5.3
Iodosulfuron-methyl-sodium	144550-36-7	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	1
Mesosulfuron-methyl, sodium salt	208465-19-4	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	3.1
Mefenpyr-diethyl	135590-91-9	Aquatic Chronic 2, H411	9
Solvent Naphtha	64742-94-5	Asp. Tox. 1, H304	> 1 – < 25

(petroleum), heavy aromatic	265-198-5 01-2119451097-39-xxxx	Aquatic Chronic 2, H411	
Naphthalene and alkyl naphthalene sulphonic acids formaldehyde condensate, sodium salt	68425-94-5	Skin Irrit. 2, H315 Eye Irrit. 2, H319	> 1 – < 25
Aromatic hydrocarbons, C10-13, reaction products with branched nonene, sulfonated, sodium salts	1258274-08-6 01-2119980591-31-xxxx	Skin Irrit. 2, H315 Eye Dam. 1, H318	> 0.1 – < 1
Docusate sodium	577-11-7 209-406-4	Eye Dam. 1, H318 Skin Irrit. 2, H315	< 1
Kaolin	1332-58-7 310-194-1	Not classified	
Diacetone alcohol	123-42-2 204-626-7	Flam. Liq. 3, H226 STOT SE 3, H335 Eye Irrit. 2, H319	< 0.1
Amorphous silica	63231-67-4 231-545-4	Not classified	

Further information

Iodosulfuron-methyl-sodium	144550-36-7	M-Factor: 1,000 (acute)
Mesosulfuron-methyl, sodium salt	208465-19-4	M-Factor: 1,000 (acute)

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 Move out of dangerous area. Remove contaminated clothing immediately and dispose of safely. Place and transport victim in stable position (lying sideways).

Inhalation Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.

Skin contact Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

Ingestion Do NOT induce vomiting. Call a physician or poison control center immediately. Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms No symptoms known or expected.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment Treat symptomatically. Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Water spray, Carbon dioxide (CO2), Foam, Sand

5.2 Special hazards arising from the substance or mixture In the event of fire the following may be released:, Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment for firefighters In the event of fire, wear self-contained breathing apparatus.

Further information Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Precautions Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.

6.2 Environmental precautions Do not allow to get into surface water, drains and ground water. If spillage enters drains leading to sewage works inform local water company immediately. If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Clean contaminated floors and objects thoroughly, observing environmental regulations. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

Additional advice Check also for any local site procedures.

6.4 Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Ensure adequate ventilation. Avoid dust formation.

Advice on protection against fire and explosion Keep away from heat and sources of ignition.

Hygiene measures Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt). Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Store in a place accessible by authorized persons only. Keep containers tightly closed in a dry, cool and well-ventilated place.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

Suitable materials Cylindrical bottles 0.25 – 1 L : COEXEV/COEXPA
Aluminium composite film (min. 0,007 mm Aluminium)

7.3 Specific end use(s) Refer to the label and/or leaflet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Iodosulfuron-methyl-sodium	144550-36-7	1 mg/m3 (TWA)		OES BCS*
Mesosulfuron-methyl, sodium salt	208465-19-4	10 mg/m3 (TWA)		OES BCS*
Mefenpyr-diethyl	135590-91-9	10 mg/m3 (TWA)		OES BCS*
Amorphous silica (Inhalable dust.)	63231-67-4	6 mg/m3 (TWA)	12 2011	EH40 WEL
Amorphous silica (Respirable dust.)	63231-67-4	2.4 mg/m3 (TWA)	12 2011	EH40 WEL
Kaolin (Respirable dust.)	1332-58-7	2 mg/m3 (TWA)	12 2011	EH40 WEL
Diacetone alcohol	123-42-2	362 mg/m3/75 ppm (STEL)	12 2011	EH40 WEL
Diacetone alcohol	123-42-2	241 mg/m3/50 ppm (TWA)	12 2011	EH40 WEL

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

8.2 Exposure controls

Refer to COSHH assessment (Control of Substances Hazardous to Health (Amendment) Regulations 2004). Engineering controls should be used in preference to personal protective equipment wherever practicable. Refer also to COSHH Essentials.

Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection	Wear respirator with a particle filter mask (protection factor 4) conforming to European norm EN149FFP1 or equivalent. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.
Hand protection	Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.
Eye protection	Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).
Skin and body protection	Wear standard coveralls and Category 3 Type 4 suit. If there is a risk of significant exposure, consider a higher protective type suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	water-dispersible granules
Colour	beige to brown
Odour	aromatic
pH	7.5 - 9.5 at 10 % (23 °C) (deionized water)
Flammability (solid, gas)	The product is not highly flammable.
Auto-ignition temperature	270 °C
Minimum ignition energy	100 - 300 mJ
Bulk density	0.637 - 0.747 g/ml (loose)
Partition coefficient: n-octanol/water	Amidosulfuron: log Pow: -1.56 at 22 °C at pH 7 Iodosulfuron-methyl-sodium: log Pow: -0.7 Mesosulfuron-methyl: log Pow: -0.48 Mefenpyr-diethyl: log Pow: 3.83 at 21 °C

Oxidizing properties	No oxidizing properties
Explosivity	Not explosive
9.2 Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Thermal decomposition	120 °C, Heating rate: 3 K/min, Decomposition energy: 10 KJ/kg
10.2 Chemical stability	Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
10.4 Conditions to avoid	Extremes of temperature and direct sunlight.
10.5 Incompatible materials	Store only in the original container.
10.6 Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity	LD50 (Rat) > 2,000 mg/kg
Acute dermal toxicity	LD50 (Rat) > 2,000 mg/kg
Skin irritation	No skin irritation (Rabbit)
Eye irritation	Severe eye irritation. (Rabbit)
Sensitisation	Sensitising (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment STOT Specific target organ toxicity – single exposure

Ethephon: May cause respiratory irritation.
Listed.

Assessment STOT Specific target organ toxicity – repeated exposure

Amidosulfuron did not cause specific target organ toxicity in experimental animal studies.
Iodosulfuron-methyl-sodium did not cause specific target organ toxicity in experimental animal studies.
Mesosulfuron-methyl did not cause specific target organ toxicity in experimental animal studies.
Mefenpyr-diethyl did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Amidosulfuron was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Iodosulfuron-methyl-sodium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Mesosulfuron-methyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Mefenpyr-diethyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Amidosulfuron was not carcinogenic in lifetime feeding studies in rats and mice.
Iodosulfuron-methyl-sodium was not carcinogenic in lifetime feeding studies in rats and mice.
Mesosulfuron-methyl was not carcinogenic in lifetime feeding studies in rats and mice.
Mefenpyr-diethyl was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction

Amidosulfuron did not cause reproductive toxicity in a two-generation study in rats.
Iodosulfuron-methyl-sodium did not cause reproductive toxicity in a two-generation study in rats.
Mesosulfuron-methyl did not cause reproductive toxicity in a two-generation study in rats.
Mefenpyr-diethyl did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Amidosulfuron did not cause developmental toxicity in rats and rabbits.
Iodosulfuron-methyl-sodium did not cause developmental toxicity in rats and rabbits.
Mesosulfuron-methyl did not cause developmental toxicity in rats and rabbits.
Mefenpyr-diethyl caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Mefenpyr-diethyl are related to maternal toxicity.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 11.5 mg/l Exposure time: 96 h
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 15 mg/l Exposure time: 48 h
Toxicity to aquatic plants	EC50 (Raphidocelis subcapitata (freshwater green alga)) 5.6 mg/l Growth rate; Exposure time: 72 h
	EC50 (Lemna gibba (gibbous duckweed)) 0.0199 mg/l Growth rate; Exposure time: 7 d

12.2 Persistence and degradability

Biodegradability	Amidosulfuron: Not rapidly biodegradable Iodosulfuron-methyl-sodium: Not rapidly biodegradable Mesosulfuron-methyl: Not rapidly biodegradable Mefenpyr-diethyl: Not rapidly biodegradable
Koc	Amidosulfuron: Koc: 36 Iodosulfuron-methyl-sodium: Koc: 45 Mesosulfuron-methyl: Koc: 92 Mefenpyr-diethyl: Koc: 625

12.3 Bioaccumulative potential

Bioaccumulation	Amidosulfuron: Does not bioaccumulate.

Iodosulfuron-methyl-sodium:
Does not bioaccumulate.
Mesosulfuron-methyl:
Does not bioaccumulate.
Mefenpyr-diethyl: Bioconcentration factor (BCF) 232
Does not bioaccumulate.

12.4 Mobility in soil

Mobility in soil

Amidosulfuron: Mobile in soils
Iodosulfuron-methyl-sodium: Mobile in soils
Mesosulfuron-methyl: Moderately mobile in soils
Mefenpyr-diethyl: Slightly mobile in soils

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment

Amidosulfuron: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Iodosulfuron-methyl-sodium: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Mesosulfuron-methyl: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Mefenpyr-diethyl: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

12.6 Other adverse effects

Additional ecological information

No other effects to be mentioned.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant. Advice may be obtained from the local waste regulation authority (part of the Environment Agency in the UK).

Contaminated packaging

Small containers (< 10 l or < 10 kg) should be rinsed thoroughly using an integrated pressure rinsing device, or, by manually rinsing three times.
Add washings to sprayer at time of filling.
Dispose of empty and cleaned packaging safely.
Large containers (> 25 l or > 25 kg) should not be rinsed or re-used for any other purpose.
Return large containers to supplier.
Follow advice on product label and/or leaflet.

Contaminated packaging

Not completely emptied packagings should be disposed of as hazardous waste.

Waste key for the unused product	**02 01 08*** agrochemical waste containing dangerous substances

SECTION 14: TRANSPORT INFORMATION

ADR/RID/ADN

14.1 UN number	**3077**
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (IODOSULFURON-METHYL-SODIUM MIXTURE)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES
Hazard no.	90
Tunnel Code	E

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

IMDG

14.1 UN number	**3077**
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (IODOSULFURON-METHYL-SODIUM MIXTURE)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Marine pollutant	YES

IATA

14.1 UN number	**3077**
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (IODOSULFURON-METHYL-SODIUM MIXTURE)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES

UK 'Carriage' Regulations

14.1 UN number	**3077**
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (IODOSULFURON-METHYL-SODIUM MIXTURE)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES
Emergency action code	2Z

14.6 Special precautions for user
See sections 6 to 8 of this Safety Data Sheet.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code
No transport in bulk according to the IBC Code.

SECTION 15: REGULATORY INFORMATION

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

UK and Northern Ireland Regulatory References

This material may be subject to some or all of the following regulations (and any subsequent amendments). Users must ensure that any uses and restrictions as indicated on the label and/or leaflet are followed.

Transport

Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No 1348)
Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997 (SI 1997 No 2367)
Air Navigation Dangerous Goods Regulations 2002 (SI 2002 No 2786)

Supply and Use

Chemical (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No 716)
Chemical (Hazard Information and Packaging for Supply) (Northern Ireland) Regulations 2009
Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No 2677)
EH40 Occupational Exposure Limits - Table 1 List of approved workplace exposure limits
Control of Pesticide Regulations 1986
Dangerous Substances and Explosive Atmospheres Regulations 2002

Waste Treatment

Environmental Protection Act 1990, Part II
Environmental Protection (Duty of Care) Regulations 1991
The Waste Management Licensing Regulations 1994 (as amended)
Hazardous Waste Regulations 2005 (Replacing Special Waste Regulations 1996 as amended)
Landfill Directive
Regulation on Substances That Deplete the Ozone Layer 1994 (EEC/3093/94)
Water Resources Act 1991
Anti-Pollution Works Regulations 1999

Further information

WHO-classification: III (Slightly hazardous)

15.2 Chemical Safety Assessment

A chemical safety assessment is not required.

SECTION 16: OTHER INFORMATION

Text of the hazard statements mentioned in Section 3

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

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.

Abbreviations and acronyms

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
Conc.	Concentration
EC-No.	European community number
ECx	Effective concentration to x %
EH40 WEL	Worker Exposure Limit
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
LOEC/LOEL	Lowest observed effect concentration/level
MARPOL	MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SI	Statutory Instrument
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

The above information is intended to give general health and safety guidance on the storage and transport of the product.
It is not intended to apply to the use of the product for which purposes the product label and any appropriate technical usage literature available should be consulted and any relevant licenses, consents or approvals complied with.
The requirements or recommendations of any relevant site or working procedure, system or policy in force or arising from any risk assessment involving the substance or product should take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given.
The information provided in this safety data sheet is accurate at the date of publication and will be updated as and when appropriate.
No liability will be accepted for any injury, loss or damage resulting from any failure to take account of information or advice contained in this safety data sheet.

Reason for Revision: Safety Data Sheet according to Regulation (EU) No. 2015/830. The following sections have been revised: Section 2: Hazards Identification. Section 6. Accidental Release Measures. Section 7: Handling and Storage. Section 10. Stability and reactivity.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.