SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	:	Substance
Substance name	:	Acyclovir
Chemical name	:	2-amino-1,9-dihydro-9-[(2-hydroxyethoxy)methyl]-6H-purin-6-one
CAS No.	:	59277-89-3
Product code	:	AC
Formula	:	C18H11N5O3
Product group	:	Pharmaceutical product

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

1.2.1. Relevant identified uses

Main use category	:	Industrial use
Industrial/Professional use spec.	:	isolated intermediate
Function or use category	:	Antiviral

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Hetero drugs Ltd
7-2-A2, Hetero Corporate, Industrial Estate
500082 Hyderabad - INDIA
T 04023774009
DRRama@heterodrugs.com - www.heterodrugs.com

1.4. Emergency telephone number

No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

Classification according to Directive 67/548/EEC or 1999/45/EC

Carc.Cat.3; R40

Full text of R-phrases: see section 16.

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :



None

CLP Signal word	:	Warning
Hazard statements (CLP)	:	H302 - Harmful if swallowed H332 - Harmful if inhaled
Precautionary statements (CLP)	:	P103 - Read label before use P102 - Keep out of reach of children P201 - Obtain special instructions before use P233 - Keep container tightly closed P403 - Store in a well-ventilated place
EUH phrases	:	EUH210 - Safety data sheet available on request

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : Acyclovir
CAS No. : 59277-89-3
EC no :
EC index no :

Name	Product identifier	%	Classification according to Directive 67/548/EEC
2-amino-1,7-dihydro-6H-purin-6-one.			Not classified
2-amino-7-[(2-hydroxyethoxy)methyl]-1,7-dihydro-6H-purin-6-one			Not classified
N-[9-[(2-hydroxyethoxy)methyl]-6-oxo-6,9-dihydro-1H-purin-2-yl]acetamide			Not classified
2-[[2-(acetylamino)-6-oxo-1,6-dihydro-9H-purin-9-yl]methoxy]ethyl acetate			Not classified
2-amino-7-[[2-[(2-amino-6-oxo-1,6-dihydro-9H-purin-9-yl)methoxy]ethoxy]methyl]1,7-dihydro-6H-purin-6-one.			Not classified
9,9'-[ethylenebis(oxymethylene)]bis(2-amino-1,9-dihydro-6H-purin-6-one)			Not classified
2,2'-[methylenediimino]bis[9-[(2-hydroxyethoxy)methyl]-1,9-dihydro-6H-purin-6-one] and 9,9'-[methylenebis(oxyethyleneoxymethylene)]bis(2-amino-1,9-dihydro-6H-purin-6-one)			Not classified
Mixture of 2-Amino-9-[[2-(hydroxymethoxy)ethoxy]methyl]-1,9-dihydro-6H-purin-6-one and 2-amino-9-[[2-(hydroxyethoxy)methoxy]methyl]-1,9-dihydro-6H-purin-6-one			Not classified
Acetone	(CAS No.) 67-64-1 (EC no) 200-662-2 (EC index no) 606-001-00-8		F; R11 Xi; R36 R66 R67
Acetic acid	(CAS No.) 64-19-7 (EC no) 200-580-7 (EC index no) 607-002-00-6		R10 C; R35
Methanol	(CAS No.) 67-56-1 (EC no) 200-659-6 (EC index no) 603-001-00-X		F; R11 T; R23/24/25-39/23/24/25
2-amino-9-(2--hydroxyethyl)1,9-dihydro-6H-purin-6-one			Not classified
2-[(2-amino-6-oxo-1,6-dihydro-9H-purin-9-yl)methoxyl)ethyl acetate			Not classified

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-amino-1,7-dihydro-6H-purin-6-one.			Not classified
2-amino-7-[(2-hydroxyethoxy)methyl]-1,7-dihydro-6H-purin-6-one			Not classified
N-[9-[(2-hydroxyethoxy)methyl]-6-oxo-6,9-dihydro-1H-purin-2-yl]acetamide			Not classified
2-[[2-(acetylamino)-6-oxo-1,6-dihydro-9H-purin-9-yl]methoxy]ethyl acetate			Not classified
2-amino-7-[[2-[(2-amino-6-oxo-1,6-dihydro-9H-purin-9-yl)methoxy]ethoxy]methyl]1,7-dihydro-6H-purin-6-one.			Not classified
9,9'-[ethylenebis(oxymethylene)]bis(2-amino-1,9-dihydro-6H-purin-6-one)			Not classified
2,2'-[methylenediimino]bis[9-[(2-hydroxyethoxy)methyl]-1,9-dihydro-6H-purin-6-one] and 9,9'-[methylenebis(oxyethyleneoxymethylene)]bis(2-amino-1,9-dihydro-6H-purin-6-one)			Not classified
Mixture of 2-Amino-9-[[2-(hydroxymethoxy)ethoxy]methyl]-1,9-dihydro-6H-purin-6-one and 2-amino-9-[[2-(hydroxyethoxy)methoxy]methyl]-1,9-dihydro-6H-purin-6-one			Not classified
Acetone	(CAS No.) 67-64-1 (EC no) 200-662-2 (EC index no) 606-001-00-8		Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
Acetic acid	(CAS No.) 64-19-7 (EC no) 200-580-7 (EC index no) 607-002-00-6		Skin Corr. 1A, H314 Flam. Liq. 3, H226
Methanol	(CAS No.) 67-56-1 (EC no) 200-659-6 (EC index no) 603-001-00-X		Flam. Liq. 2, H225 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Acute Tox. 3 (Oral), H301 STOT SE 1, H370
2-amino-9-(2--hydroxyethyl)1,9-dihydro-6H-purin-6-one			Not classified

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-[(2-amino-6-oxo-1,6-dihydro-9H-purin-9-yl)methoxyl)ethyl acetate			Not classified

Full text of R-, H- and EUH-phrases: see section 16.

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Flush with water while holding eyelids open for at least 15 minutes. Seek medical attention immediately.

First-aid measures after inhalation : Allow the victim to rest in a well ventilated area. Seek immediate Medical attention.

First-aid measures after skin contact : When symptoms occur: rinse immediately with plenty of water. Rewmove contaminated clothing. Flush arera with large amount of water. USE SOAP. seek medical attention.

First-aid measures after eye contact : Flush with water while holding eyelids open for at least 15 minutes. Seek medical attention immediately.

First-aid measures after ingestion : Rinse mouth with water-Immediately after ingestion:give lots of water to drink.

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

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use carbon dioxide, dry chemical.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable with air within explosin limits Indirect fire hazard may be ignited by sparks Gas/vapour spreads at floor level:ignition hazard.

Explosion hazard : Not expected for the product, although the packaging is combustible.

Reactivity : Product is not explosive.

5.3. Advice for firefighters

Precautionary measures fire : Fight fire from a safe distance. Wear full protective clothing. Use water spray to keep exposed containers and equipment cool. Toxic, corrosive of flammable thermal decomposition products are expected when the product is exposed to fire. Self-contained breathing apparatus and full protective equipment is recommended for firefighters.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Keep upwind-Mark the danger area-Consider evacuation-Seal off low-liing area-Close doors and windows of adjecent premiss.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

For large spills, take precautions to prevent entry into waterways, sewers, or surface drainage systems.

6.3. Methods and material for containment and cleaning up

For containment : Absorb material with suitable materials such as clay absorbent or absorbent pads for aqueous solutions.

Methods for cleaning up : Wipe up with a damp cloth and place in container for disposal. Clean spill area thoroughly.

Other information : Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Gloves.

Handling temperature : 25 °C

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	"Preserve in tight light -resistant containers, Store at 25°C.
Storage temperature	:	25 °C
Storage area	:	Room.
Special rules on packaging	:	Triple laminated aluminium package.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls	:	Engineering controls should be usd as the primary means to control exposures. General room ventilation is adequate unless the process generates dust, mist or fumes. Kepp airborne contamination levels below the exposure limites listed above in this section.
Personal protective equipment	:	Wear gas mask with filter type A if conc. in air >. Respiratory protection of the dependent type. Protective goggles. Protective clothing. On heating: heatproof clothing. Gloves.



Materials for protective clothing	:	Chloroprene rubber nitrile rubber.
Hand protection	:	Gloves.
Eye protection	:	Safety glasses.
Skin and body protection	:	Protective clothing.
Respiratory protection	:	Gas mask with filter type A.
Other information	:	The present safety data sheet is consistent with the specific conditions relied on to justify the registration of the substance as isolated intermediate.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	White or almost white, crystalline powder.
Molecular mass	:	225 g/mol
Colour	:	White.
Odour	:	None.
Odour threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Solidification point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Flammability (solid, gas)	:	No data available
Explosive limits	:	No data available
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	No data available
Solubility	:	Slightly soluble in water, very slightly soluble in ethanol (96%), practically insoluble in Heptane. It dissolves in dilute solutions of mineral acids and alkali hydroxides.
Log Pow	:	No data available
Log Kow	:	No data available
Self ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available

Oxidising properties : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Product is not explosive.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

As a precautionary measure. Keep away from strong oxidizers.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Slightly soluble in water.

Ecology - air : Not dangerous for the ozone layer(1999/45/EC).

12.2. Persistence and degradability

Acyclovir (59277-89-3)	
Persistence and degradability	% biodegradation.

Acetic acid (64-19-7)	
Persistence and degradability	% biodegradation.

12.3. Bioaccumulative potential

Acyclovir (59277-89-3)	
Bioaccumulative potential	The substance has low potential for bioaccumulation.

Acetic acid (64-19-7)	
Bioaccumulative potential	The substance has low potential for bioaccumulation.

12.4. Mobility in soil

Acyclovir (59277-89-3)	
Ecology - soil	The substance has moderate mobility in groundwater. The substance has moderate mobility in soil.

Acetic acid (64-19-7)	
Ecology - soil	The substance has moderate mobility in groundwater. The substance has moderate mobility in soil.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Additional information : Wash clothiong and equipment after handling.

Ecology - waste materials : Take up liquid spil into absorbent material-Scoop absorbed substance into closing containers.

SECTION 14: Transport information

No dangerous good in sense of transport regulations.

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No Annex XVII restrictions

Contains no REACH candidate substance

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

Full text of R-, H- and EUH-phrases:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhalation) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 3	Flammable liquids Category 3
Skin Corr. 1A	skin corrosion/irritation Category 1A
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapour
H226	Flammable liquid and vapour
H301	Toxic if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H319	Causes serious eye irritation
H331	Toxic if inhaled
H336	May cause drowsiness or dizziness
H370	Causes damage to organs
R10	Flammable.
R11	Highly flammable.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R35	Causes severe burns.
R36	Irritating to eyes.
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R40	Limited evidence of a carcinogenic effect
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.
C	Corrosive
F	Highly flammable
T	Toxic
Xi	Irritant

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.