

SAFETY DATA SHEET

Based on Directive 2001/58/EC of the Commission of the European Communities

RANMAN + ACTIVATOR FOR RANMAN

1. Identification of the substance/preparation and of the company/undertaking

1.1 Identification of the substance or preparation:

It consists of two separate compartments to be mixed just before use. The first compartment is a SC formulation containing 400g/l cyazofamid. The second compartment is an organo-silicone adjuvant. Just before use (during spray solution preparation), the two compartments are mixed together according to a ratio of 4/3 (v/v) 400 SC/adjuvant. The resulting concentration is 229 g Cyazofamid/L Ranman to be diluted in water.

Synonyms: none
CAS No. : N.A.
EC index No. : N.A. **NFPA code** : N.D.
EINECS No. : N.A. **Molecular weight** : N.A.
RTECS No. : N.A. **Formula** : N.A.

1.2 Use of the substance or the preparation:

Fungicide

1.3 Company/undertaking identification:

ISK Biosciences Europe S.A.
Avenue Louise 480, Bte 12
B-1050 Brussel
Tel. : +32 2 627 86 11
Fax : +32 2 627 86 00

1.4 Telephone number for emergency:

+32 14 58 45 45
Brandweerinformatiecentrum voor gevaarlijke stoffen (B.I.G.)
Technische Schoolstraat 43A, B-2440 Geel

2. Composition/information on ingredients

Hazardous ingredients	CAS No. EINECS/ELINCS No.	Conc. in %	Hazard symbol	Risks (R-phrases)
cyazofamid	120116-88-3 -	23	N	50/53 (1)
Polyalkyleneoxide modified heptamethyltrisiloxane	27306-78-1 -	36	Xn;N	20-36-48/20-51/53(1)

(1) For R-phrases in full: see heading 16

3. Hazards identification

- Risk of serious damage to eyes
- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

4. First aid measures

4.1 Eye contact:

- Consult a doctor/medical service
- Rinse immediately with plenty of water for 15 minutes
- Do not apply neutralizing agents

Printing date : 08-2004
Compiled by : Brandweerinformatiecentrum voor Gevaarlijke Stoffen vzw (BIG)
Technische Schoolstraat 43 A, B-2440 Geel
☎ +32 14 58 45 47 http://www.big.be E-mail: info@big.be

MSDS established : 30-06-2003 Revision date : 11-08-2004
Reference number : BIG\31899GB Revision number : 003
Reason for revision : 7

1/8

RANMAN + ACTIVATOR FOR RANMAN

4.2 Skin contact:

- Consult a doctor/medical service if irritation persists
- Rinse with water

4.3 After inhalation:

- Consult a doctor/medical service if breathing problems develop
- Remove the victim into fresh air
- Unconscious: maintain adequate airway and respiration

4.4 After ingestion:

- Consult a doctor/medical service if you feel unwell
- Immediately give lots of water to drink
- Never give water to an unconscious person

5. Fire-fighting measures

5.1 Suitable extinguishing media:

- Water spray
- Polyvalent foam
- BC powder
- Carbon dioxide

5.2 Unsuitable extinguishing media:

- No data available

5.3 Special exposure hazards:

- On burning: release of toxic and corrosive gases/vapours (sulphur oxides, nitrous vapours, hydrogen chloride, carbon monoxide - carbon dioxide)

5.4 Instructions:

- Dilute toxic gases with water spray
- Take account of toxic firefighting water
- Use firefighting water moderately and contain it

5.5 Special protective equipment for firefighters:

- Heat/fire exposure: compressed air/oxygen apparatus
- Heat/fire exposure: gas-tight suit

6. Accidental release measures

6.1 Personal protection/precautions:

See heading 8.1/8.3/10.3

6.2 Environmental precautions:

- Prevent soil and water pollution
- Prevent spreading in sewers
- Contain released substance, pump over in suitable containers
- Plug the leak, cut off the supply
- Dam up the liquid spill

6.3 Methods for cleaning up:

- Take up liquid spill into inert absorbent material
- Scoop absorbed substance into closing containers
- Carefully collect the spill/leftovers
- Clean contaminated surfaces with an excess of water
- Wash clothing and equipment after handling

7. Handling and storage

7.1 Handling:

- Observe normal hygiene standards
- Do not discharge the waste into the drain
- Remove contaminated clothing immediately
- Clean contaminated clothing

7.2 Storage:

- Keep out of direct sunlight
- Protect against frost
- Provide for a tub to collect spills
- Meet the legal requirements
- Keep away from: heat sources

RANMAN + ACTIVATOR FOR RANMAN

Storage temperature	: 0/40	°C
Quantity limits	: N.D.	kg
Storage life	: > 730	days
Materials for packaging	: HDPE	
- suitable	: no data available	
- to avoid	: no data available	

7.3 Specific uses:

- See information supplied by the manufacturer

8. Exposure controls/Personal protection

8.1 Exposure limit values:

TLV-TWA	: not listed
TLV-STEL	: not listed
TLV-Ceiling	: not listed
OES-LTEL	: not listed
OES-STEL	: not listed
MEL-LTEL	: not listed
MEL-STEL	: not listed
MAK	: not listed
TRK	: not listed
MAC-TGG 8 h	: not listed
MAC-TGG 15 min.	: not listed
MAC-Ceiling	: not listed
VME-8 h	: not listed
VLE-15 min.	: not listed
GWBB-8 h	: not listed
GWK-15 min.	: not listed
Momentary value	: not listed
EC	: not listed
EC-STEL	: not listed

Sampling methods:

- No data available

8.2 Exposure controls:

8.2.1 Occupational exposure controls:

- Work under local exhaust/ventilation

8.2.2 Environmental exposure controls: see heading 13

8.3 Personal protection:

8.3.1 respiratory protection:

- Insufficient ventilation: wear respiratory protection

8.3.2 hand protection:

- Gloves
Suitable materials: No data available

- Breakthrough time: N.D.

8.3.3 eye protection:

- Safety glasses

8.3.4 skin protection:

- Protective clothing
Suitable materials: No data available

RANMAN + ACTIVATOR FOR RANMAN

9. Physical and chemical properties

9.1 General information:	Cyazofamid 400SC	Organosilicone adjuvant
Appearance (at 20°C)	: liquid (suspension)	liquid
Odour	: not specific	not specific
Colour	: light beige	light yellow
9.2 Important health, safety and environmental information:		
pH value	: Mixture: 6.25	N.D.
Boiling point/boiling range	: N.D.	150 °C
Flashpoint (Pensky-Martens closed cup)	: N.A.	116 °C
Explosion limits	: N.D.	N.D.
Vapour pressure (at 20°C)	: N.D.	< 1.3 hPa
Vapour pressure (at 50°C)	: N.D.	N.D.
Relative density (at 20°C)	: 1.15/1.17	1.007 at 25°C
Water solubility	: miscible	dispersible
Soluble in	: N.D.	N.D.
Relative vapour density	: N.D.	> 1
Viscosity (Brookfield spindle 60rpm)	: 300-500 mPa.s	N.D.
Partition coefficient n-octanol/water	: N.D.	N.D.
Evaporation rate		
ratio to butyl acetate	: N.D.	N.D.
ratio to ether	: N.D.	N.D.
9.3 Other information:		
Melting point/melting range	: N.D.	-1°C
Auto-ignition point	: 503 °C	N.D.
Saturation concentration	: N.D.	N.D.

10. Stability and reactivity

10.1 Conditions to avoid/reactivity:

- Stable under normal conditions

10.2 Materials to avoid:

- Keep away from: heat sources

10.3 Hazardous decomposition products:

- On burning: release of toxic and corrosive gases/vapours (sulphur oxides, nitrous vapours, hydrogen chloride, carbon monoxide - carbon dioxide)

11. Toxicological information

11.1 Acute toxicity:

LD50 oral rat	: > 5000	mg/kg
LD50 dermal rat	: > 5000	mg/kg
LD50 dermal rabbit	: N.D.	mg/kg
LC50 inhalation rat	: > 5.08	mg/l/4 h (field dilution)
Skin irritation	: Non-irritant	
Eye irritation rabbit	: Non-irritant (field dilution)	
Eye irritation rabbit	: Strong irritant	
Skin sensitization	: Non-sensitizer	

11.2 Chronic toxicity:

EC carc. cat.	: not listed
EC muta. cat.	: not listed
EC repr. cat.	: not listed
Carcinogenicity (TLV)	: not listed
Carcinogenicity (MAC)	: not listed
Carcinogenicity (VME)	: not listed
Carcinogenicity (GWBB)	: not listed
Carcinogenicity (MAK)	: not listed
Mutagenicity (MAK)	: not listed
Teratogenicity (MAK)	: not listed
IARC classification	: not listed

11.3 Routes of exposure: ingestion, inhalation, eyes and skin

11.4 Acute effects/symptoms:

- AFTER EYE CONTACT
- Irritation of the eye tissue
- Inflammation/damage of the eye tissue

11.5 Chronic effects:

- Not listed in carcinogenicity class (IARC,EC,TLV,MAK)
- Not listed in mutagenicity class (EC,MAK)
- Not classified as toxic to reproduction (EC)

RANMAN + ACTIVATOR FOR RANMAN

12. Ecological information

12.1 Ecotoxicity:

Cyazofamid

- LC50 (96 h) : 0.56 mg/l (SALMO GAIRDNERI/ONCORHYNCHUS MYKISS)
- EC50 (48 h) : 0.18 mg/l (DAPHNIA MAGNA)
- EC50 (72 h) : 0.059 mg/l (SELENASTRUM CAPRICORNUTUM)

12.2 Mobility:

- Volatile organic compounds (VOC): N.D.%
- Insoluble in water

For other physicochemical properties see heading 9

12.3 Persistence and degradability:

Cyazofamid 400SC

- biodegradation BOD₅ : N.D. % ThOD
- water : Easily degradable
- soil : T ½: 4/5 days

12.4 Bioaccumulative potential:

Cyazofamid 400SC

- log P_{ow} : 3.2
- BCF : N.D.

12.5 Other adverse effects:

- WGK : 2 (Classification based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 17 May 1999)
- Effect on the ozone layer : Not dangerous for the ozone layer (1999/45/EC)
- Greenhouse effect : no data available
- Effect on waste water purification : no data available

13. Disposal considerations

13.1 Provisions relating to waste:

- Waste material code (91/689/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 02 01 08* (agrochemical waste containing dangerous substances)
- Waste material code (Flanders): 035
- Hazardous waste (91/689/EEC)

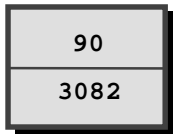
13.2 Disposal methods:

- Remove to an incinerator for chlorinated waste materials

13.3 Packaging/Container:

- Waste material code packaging (91/689/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 15 01 10* (packaging containing residues of or contaminated by dangerous substances)

14. Transport information



14.1 Classification of the substance in compliance with UN Recommendations

```

UN number           : 3082
CLASS               : 9
SUB RISKS           : -
PACKING             : III
PROPER SHIPPING NAME :
UN 3082, Environmentally hazardous substance, liquid, n.o.s. (cyazofamid,
Polyalkyleneoxide modified heptamethyltrisiloxane)
    
```

14.2 ADR (transport by road)

```

CLASS               : 9
PACKING             : III
CLASSIFICATION CODE :
DANGER LABEL TANKS : 9
DANGER LABEL PACKAGES : 9
    
```

14.3 RID (transport by rail)

```

CLASS               : 9
PACKING             : III
CLASSIFICATION CODE :
DANGER LABEL TANKS : 9
DANGER LABEL PACKAGES : 9
    
```

14.4 ADNR (transport by inland waterways)

```

CLASS               : 9
PACKING             : III
CLASSIFICATION CODE :
DANGER LABEL TANKS : 9
DANGER LABEL PACKAGES : 9
    
```

14.5 IMDG (maritime transport)

```

CLASS               : 9
SUB RISKS           : -
PACKING             : -
MFAG                : -
EMS                 : F-A, S-F
MARINE POLLUTANT    : P
    
```

14.6 ICAO (air transport)

```

CLASS               : 9
SUB RISKS           : -
PACKING             : III
PACKING INSTRUCTIONS PASSENGER AIRCRAFT : 914/Y914
PACKING INSTRUCTIONS CARGO AIRCRAFT     : 914
    
```

14.7 Special precautions in connection with transport

: none

14.8 Limited quantities (LQ)

:

When substances and their packaging meet the conditions established by ADR/RID/ADNR in chapter 3.4, **only** the following prescriptions shall be complied with:

each package shall display a diamond-shaped figure with the following inscription:

- 'UN 3082'

or, in the case of different goods with different identification numbers within a single package:

- the letters 'LQ'

RANMAN + ACTIVATOR FOR RANMAN

15. Regulatory information

Classification according to directives 67/548/EEC and 1999/45/EC



Irritant



Dangerous for the environment

- R41 : Risk of serious damage to eyes
R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- S(02) : (Keep out of reach of children)
S25 : Avoid contact with eyes
S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S35 : This material and its container must be disposed of in a safe way
S39 : Wear eye/face protection
S(46) : (If swallowed, seek medical advice immediately and show this container or label)
S57 : Use appropriate containment to avoid environmental contamination

16. Other information

The information provided on this MSDS 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 as 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 material or in any process, unless specified in the text.

- N.A. = NOT APPLICABLE
N.D. = NOT DETERMINED
(*) = INTERNAL CLASSIFICATION (NFPA)

Exposure limits:

- TLV : Threshold Limit Value - ACGIH USA 2002
OES : Occupational Exposure Standards - United Kingdom 2001
MEL : Maximum Exposure Limits - United Kingdom 2001
MAK : Maximale Arbeitsplatzkonzentrationen - Germany 2002
TRK : Technische Richtkonzentrationen - Germany 2001
MAC : Maximale aanvaarde concentratie - The Netherlands 2002
VME : Valeurs limites de Moyenne d'Exposition - France 1999
VLE : Valeurs limites d'Exposition à court terme - France 1999
GWBB : Grenswaarde beroepsmatige blootstelling - Belgium 2002
GWK : Grenswaarde kortstondige blootstelling - Belgium 2002
EC : Indicative occupational exposure limit values - directive 2000/39/EC

Chronic toxicity:

- K : List of the carcinogenic substances and processes - The Netherlands 2003

Full text of any R-phrases referred to under heading 2:

- R20 : Harmful by inhalation
R36 : Irritating to eyes
R48/20 : Harmful: danger of serious damage to health by prolonged exposure through inhalation
R50/53 : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment