Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Identification

Product name: DEQUEST® 2054

Type of product Preparation

Use of the substance or preparation

Complexing agents

Company/Undertaking Identification

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Composition

Substance	CAS No.	EC No.	EC Classification	% w/w
hexamethylenediamine tetra (methylenephosphonic acid), potassium salt	38820-59-6	254-135-7		>=21,2 - <=24,6 %
potassium chloride	7447-40-7	231-211-8		>=4,0 - <=6,0 %
dipotassium phosphite	13492-26-7	236-809-2		<3,6 %
water	7732-18-5	231-791-2		%

Phosphonate component expressed as active acid.
May contain: formaldehyde < 50 ppm
See Section 16 for full text of R-phrases

3. HAZARDS IDENTIFICATION

Classification of the substance/preparation

EU Dangerous Preparations Directive 1999/45/EC.
Not classified as dangerous
Index Number (Annex I):

Human health effects

On the basis of available information, this material is not expected to produce any significant adverse health effects when recommended use instructions are followed.

Environmental effects

On the basis of available information, this material is not expected to produce any significant adverse environmental effects when recommended use instructions are followed.

4. FIRST AID MEASURES

General

Grossly contaminated clothing:
Wash before re-use.

Eye contact

Rinse immediately with plenty of water.
Continue for at least 15 minutes.
Obtain medical advice if there are persistent symptoms.

Skin contact

Wash immediately with plenty of water.

Inhalation

Remove patient to fresh air.

Ingestion

Give water to drink.
Obtain medical advice.

5. FIRE FIGHTING MEASURES

Extinguishing media

Water spray, foam, dry chemical, or carbon dioxide

Exposure hazards

Decomposes in a fire giving off irritant fumes.

Combustion products:
carbon monoxide (CO), carbon dioxide, nitrogen oxides (NOx), phosphorus oxides (PxOy)

Protective equipment

Firefighters, and others exposed, wear self-contained breathing apparatus.
Equipment should be thoroughly decontaminated after use.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protection recommended in section 8.

Environmental precautions

Keep out of drains and water courses.

Methods for cleaning up

Contain large spills with dikes and transfer the material to appropriate containers for reclamation or disposal.
Absorb remaining material or small spills with an inert material and then place in a chemical waste container.
Flush spill area with water.

7. HANDLING AND STORAGE

Handling

Good industrial practice in housekeeping and personal hygiene should be followed.

Engineering measures

Provide natural or mechanical ventilation to minimize exposure.
If practical, use local mechanical exhaust ventilation at sources of air contamination such as processing equipment.

Storage

Stable under normal conditions of handling and storage.
Protect from frost.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit

No specific occupational exposure limit has been established.

Respiratory protection

Avoid breathing vapour or mist.
Use approved respiratory protection equipment when airborne exposure is excessive.
Consult the respirator manufacturer to determine the appropriate type of equipment for a given application.
The respirator use limitations specified by the manufacturer must be observed.

Hand protection

Wearing protective gloves is recommended. Suitable materials : PVC, nitrile (rubber).

Eye protection

Does not cause significant eye irritation or eye toxicity requiring special protection.
Use good industrial practice to avoid eye contact.

Skin protection

Although this product does not present a significant skin concern, minimize skin contamination by following good industrial practice.
Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Form:	aqueous, liquid
Colour:	clear - yellow
Odour:	characteristic

Important health, safety and environmental information

pH:	6 - 8 @ 10 g/l @ 25 C
Boiling point :	105 - 108 C
Flash point:	Non flammable aqueous solution
Specific gravity:	~1,29 @ 25 C
Kinematic viscosity:	5,1 mm2/s @ 37,7 C 1,7 mm2/s @ 98,8 C

Other information

Freezing point	-15 C

10. STABILITY AND REACTIVITY

Conditions to avoid

None known

Materials to avoid

Contact with strong oxidizing agents.
Contact with strong acid solution.

Hazardous reactions

Hazardous polymerization does not occur.

Hazardous decomposition products

Decomposition products:	carbon monoxide (CO), carbon dioxide, nitrogen oxides (NOx), phosphorus oxides (PxOy)

11. TOXICOLOGICAL INFORMATION

Acute animal toxicity data

Oral	LD50 ,rat, > 12.800 mg/kg ,
Dermal	LD50 , rabbit, > 7.940 mg/kg ,
Eye irritation	rabbit, Not classified as irritating to eyes. 24 h

Skin irritation	rabbit, Not irritating to skin. 24 h
Reproductive toxicity	rat, diet, 1 generation Signs of generalized toxicity (reduced body weight and/or reduced weight gain) were observed in parental animals and offspring with no effect on fertility or reproduction.
Mutagenicity	No genetic effects were noted in standard bacterial tests.

12. ECOLOGICAL INFORMATION

Environmental Toxicity

Invertebrates	48 h EC50 Water flea (Daphnia magna) 555 mg/l
Fish	96 h LC50 Channel catfish (Ictalurus punctatus) > 2400 mg/l
Algae	96 h EC50 Algae (Selenastrum capricornutum) 28 mg/l Algal growth inhibition is due to ability of this product to complex materials not to toxicity per se.

Environmental fate

COD (Chemical oxygen demand)	230 mg/g
ThOD (Theoretical oxygen demand)	~ 220 mg/g
Biodegradation	Modified SCAS theoretical CO2 evolution 4,3 % River Die-Away theoretical CO2 evolution 7,9 % 60 d

13. DISPOSAL CONSIDERATIONS

Disposal considerations

Incineration, Recycle
All local and national regulations should be followed.
Small quantities : Adjust pH between 6 and 9 and flush away with plenty of water.
Large quantities :
Send to special chemical waste disposal facility.

14. TRANSPORT INFORMATION

ROAD/RAIL

Other	Not regulated for transport.

SEA

Not regulated for transport.

AIR

Not regulated for transport.

15. REGULATORY INFORMATION

EC label

EU Dangerous Preparations Directive 1999/45/EC.

None.

Contains:

Other regulation
Germany - WGK (Wassergefährdungsklasse) : 1

16. OTHER INFORMATION

Data sheets prepared or revised since August 2002 have been completed in accordance with the European Communities Directive 2001/58.

R-phrases

Number format: "," used as decimal separator.