SECTION 1: IDENTIFICATION

1.1 Product identifier

Product Name	HCR™ Pro Detect D

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

Identified uses	For research use only. Not for diagnostic use.

1.3 Details of the supplier of the data sheet

Company	Molecular Instruments, Inc. 5015 Eagle Rock Blvd Suite 301 Los Angeles, CA 90041
Telephone	+1 626 210 2600

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Mixture, category not classified

2.2 Label elements including precautionary statements

May be harmful if swallowed. If swallowed call a poison center/doctor/physician if you feel unwell.

Signal Word	Danger

2.3 Other hazards

Mixture may be irritation to the mucous membranes and upper respiratory tract. May be harmful by inhalation, ingestion, or skin adsorption. May cause eye, skin, or respiratory system irritation. To the best of our knowledge the toxicological properties have not been thoroughly investigated.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical Characterization

USA GHS, category 5 hazardous mixture.

3.2 Dangerous Components

Chemical Name	CAS No	EINECS No	Weight %
Sodium Azide	26628-22-8	247-852-1	0.02-0.04*
Iron(II) sulfate heptahydrate	7782-63-0	231-753-5	0.01-0.4*
4-dimethylaminoantipyrine	58-15-1	200-365-8	0.005-0.075*
Edetic acid disodium salt dihydrate (EDTA-2Na-2H2O)	6381-92-6	205-358-3	0.01-4*

*Actual concentrations are withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General information	Move to fresh air. If you feel unwell, seek medical advice. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
Inhalation	Move to fresh air. Consult a physician if inflammation occurs. If unconscious, place in recovery position and seek medical advice.
Ingestion	Rinse mouth. Consult a physician. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice.
Skin Contact	Rinse immediately with plenty of water. Get medical attention if symptoms occur.
Eye Contact	Rinse immediately with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Remove contact lenses if present. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

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

No data available.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Do not use high volume water jet.

5.2 Special hazards

Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for fire fighters

Wear self-contained breathing apparatus and protective suit.

5.4 Further information

Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Always use personal protection equipment. Avoid dust formation. Avoid breathing dust.

6.2 Environmental Precautions

Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.

6.3 Methods and material for containment and clean up

Soak up with inert absorbent material. Place used material into appropriate, closed containers for disposal. Clean contaminated area thoroughly.

6.4 Reference to other sections

Wear personal protective equipment as described in Section 8 of the Safety Data Sheet.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid formation of respirable particles.
Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the ap- plication area.
Dispose of rinse water in accordance with local and national regulations.

Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

7.2 Conditions for safe storage, including any incompatibles

Store at 2-8°C under sterile conditions.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

For research use only. Not for diagnostic use.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure Limits

Components	CAS No	Value type (Form of exposure)	Control parameters/Permissible concentration	Basis
Alpha-D-Glucopyranoside, Beta-D-fructofuranosyl	57-50-1	TWA	10 mg/m3	ACGIH
		TWA (Respirable)	5 mg/m3	NIOSH REL
		TWA (total)	10 mg/m3	NIOSH REL
		TW (total dust)	15 mg/m3	OSHA Z-1
		TWA (respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (Total dust)	15 mg/m3	OSHA P0
		TWA (respirable dust fraction)	5 mg/m3	OSHA P0
Iron(II) sulfate heptahydrate	7782-63-0	TWA	1 mg/m3 (Iron)	ACGIH
		TWA	1 mg/m3 (Iron)	OSHA P0
		TWA	1 mg/m3 (Iron)	NIOSH REL

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

8.2 Exposure controls

Personal Protective Equipment

Respiratory Protection	Use a properly-fitted, air-purifying, or air-fed respirator complying with an approved standard if a risk assessment indicates this is a necessity. Respirator selection must be on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Hand Protection	In case of contact through splashing: Nitrile rubber, glove thickness: > 0.11 mm Break through time: > 30 min In case of full contact: Butyl-rubber, glove thickness: > 0.4mm Breakthrough time: > 480 min
Eye Protection	Tightly fitting safety goggles should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, or dusts.
Skin and Body Protection	Appropriate footwear and dust impervious clothing should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Hygiene Measures	Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking, using the lavatory, and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure the eyewash station and safety showers are close to the workstation location.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters, or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Environmental Exposure Controls

Should not be released in the environment. Prevent product from entering drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: Liquid.

9.2 Other information

No data available.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available.

10.2 Stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Reacts with the following substances:
Oxidizing agents
No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Exposure to light and heat.

10.5 Incompatible materials

No data available.

10.6 Hazardous decomposition products

Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke. Sulfur oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Toxicological information	No data available.
<u>Principle Routes of exposure</u> <u>Potential Health Effects</u>	
Inhalation	Acute toxicity estimate: 55.24 mg/l Exposure time: 4h Test atmosphere: dust/mist Method: Calculation method
Ingestion	Acute toxicity estimate: >5,000 mg/kg Method: Calculation method
Skin contact	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method
Eye contact	No data available.
Carcinogenetic effects	IARC: No component of this product is present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed carcinogen by IARC. NTP: No component of this product is present at levels greater than or equal to 0.1% is

	identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product is present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Mutagenic effects	No data available.
Reproductive toxicity	No data available.
Sensitization	No data available.
Target organ effects	No data available.
Other adverse effect	No data available.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Toxicity Data on Soil:	Not expected to adsorb on soil.
Other organisms relevant to the environment:	No data available.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data
Edetic acid disodium salt dihydrate (EDTA-2Na-2H20)	EC50: 56 mg/L (8 h) (P. putida) ErC50: > 100 mg/L (72 h) (D. subspicatus)	LC50: > 100 mg/L (24 h)	LC50: 320 mg/L (96 h) (P. reticulata) LC50: > 500 mg/L (96 h) (L. idus)
Iron(II) sulfate heptahydrate	Not listed	EC50: 152 mg/L (48 h)	LC50: 925 mg/L (96 h) (P. reticulata)
3H-Pyrazol-3-one, 4-(dimethylamino)-1,2-dihydro-1, 5-dimethyl-2-phynyl heptahydrate	Not listed	Not listed	LC50: 925 mg/L (96 h) (P. reticulata)
.alpha.-D-Glucopyranoside, .beta.-D-fructofuranosyl	Not listed	Not listed	LC50: > 100 mg/L (96 h)

12.2 Persistence and degradability

Components:

Edetic acid disodium salt dihydrate (EDTA-2Na-2H2O)

Biodegradability:	Biodegradation: 3% Testing period: 30 d Method: Directive 67/548/EEC Annex V, C.4.C.

Remarks: According to the results of tests of biodegradability this product is not readily biodegradable

Biochemical Oxygen Demand (BOD): 10 mg/g
Incubation time: 5 d

12.3 Bioaccumulation potential

Components:

Alpha-D-Glucopyranoside, Beta-D-fructofuranosyl:
Partition coefficient: n-octanol/water — log Pow: -3.67

Edetic acid disodium salt dihydrate (EDTA-2Na-2H2O):
Partition coefficient: n-octanol/water — Remarks: No data available

Iron(II) sulfate heptahydrate
Partition coefficient: n-octanol/water — Remarks: No data available

3H-Pyrazol-3-one, 4-(dimethylamino)-1,2-dihydro-1,5-dimethyl-2-phynyl heptahydrate
Partition coefficient: n-octanol/water — Remarks: Not applicable

12.4 Mobility in soil

No data available.

12.5 Other adverse effects

Ozone-Depletion Potential: Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone – CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste from residues: The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. Can be disposed as waste water, when in compliance with local regulations. Contaminated packaging: Empty remaining contents, and dispose of as unused product. 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

IATA/ADR/DOT-US/IMDG

Not dangerous goods. Not regulated by transport regulations.

14.1 UN number	Not applicable
14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es)	Not applicable
14.4 Packaging group	Not applicable
14.5 Environmental hazards	Not applicable

SECTION 15. REGULATORY INFORMATION

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

US Federal Regulations

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312

No SARA Hazards.

SARA 313

This product is not regulated by SARA.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain HAPs.

US State Regulations

Chemical Name	Massachusetts-RTK	Pennsylvania-RTK
Alpha-D-Glucopyranoside, Beta-D-fructofuranosyl	Listed	Listed

California Proposition 65

This product does not contain any Proposition 65 chemicals.

15.2 Chemical safety assessment

No data available.

SECTION 16. OTHER INFORMATION

Disclaimer

The above information is believed to be correct but shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since Molecular Instruments, Inc. cannot control the actual methods, volumes, or conditions of use, Molecular Instruments, Inc. shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. The information in this safety data sheet (SDS) does not constitute a warranty, expressed or implied, including any implied warranty of merchantability or fitness for any particular purpose. See www.molecularinstruments.com/terms for our terms of sale.