

**1. Identification**

**Product identifier** DefCon -2R & DefCon -2D

**Other means of identification**

**SDS number** 576N-101A

**Product code** HIL00454

**Recommended use** Degreaser / Cleaner

**Recommended restrictions** For Labeled Use Only

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company name** HILLYARD INDUSTRIES

**Address** 302 North Fourth St.  
 St. Joseph, MO 64501

**Contact person** Regulatory Affairs

**Telephone number** (800) 365-1555 (Ext. 8206)

**Fax** (816) 383-8406

**E-mail** regulatoryaffairs@hillyard.com

**Emergency telephone #** (800) 424-9300  
 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals)

**2. Hazard(s) identification**

<b>Physical hazards</b>	Flammable liquids	Category 4
<b>Health hazards</b>	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 1B
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 2
<b>OSHA defined hazards</b>	Not classified.	

**Label elements**



**Signal word** Danger

**Hazard statement** Combustible liquid. Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation. Toxic to aquatic life.

**Precautionary statement**

**Prevention** Keep away from flames and hot surfaces - No smoking. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

<b>Response</b>	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. In case of fire: Use appropriate media to extinguish.
<b>Storage</b>	Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
<b>Disposal</b>	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law. Waste from normal use may be sewered to a public-owned treatment works in compliance with applicable federal, state and local requirements. CONTAINER DISPOSAL: Completely empty bag into application equipment. Dispose of empty bag in a sanitary landfill. Offer clean, dry fiberboard container for recycling or reconditioning.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
*Complex Surfactant Blend		Proprietary	10 - < 20
Ethanolamine		141-43-5	10 - < 20
Tetrasodium EDTA		64-02-8	5 - < 10
Isopropanol		67-63-0	1 - < 3
Lauramine Oxide		1643-20-5	1 - < 3
Other components below reportable levels			60 - < 70

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
<b>Skin contact</b>	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
<b>Most important symptoms/effects, acute and delayed</b>	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	Combustible liquid.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up** Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

**Environmental precautions** Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling** Keep away from open flames, hot surfaces and sources of ignition. Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities** Store locked up. Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

#### US. OSHA Table Z-1 Permissible Exposure Limits (PEL) for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethanolamine (CAS 141-43-5)	PEL	6 mg/m <sup>3</sup> 3 ppm
Isopropanol (CAS 67-63-0)	PEL	980 mg/m <sup>3</sup> 400 ppm

#### US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value
Ethanolamine (CAS 141-43-5)	STEL	6 ppm
	TWA	3 ppm
Isopropanol (CAS 67-63-0)	STEL	400 ppm

**US. ACGIH Threshold Limit Values (TLV)**

Components	Type	Value
	TWA	200 ppm

**NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended**

Components	Type	Value
Ethanolamine (CAS 141-43-5)	IDLH	3 % 30 ppm
Isopropanol (CAS 67-63-0)	IDLH	2 % 2000 ppm

**US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)**

Components	Type	Value
Ethanolamine (CAS 141-43-5)	STEL	15 mg/m3 6 ppm
	TWA	8 mg/m3 3 ppm
Isopropanol (CAS 67-63-0)	STEL	1225 mg/m3 500 ppm
	TWA	980 mg/m3 400 ppm

**Biological limit values****ACGIH Biological Exposure Indices (BEI)**

Components	Value	Determinant	Specimen	Sampling Time
Isopropanol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*

\* - For sampling details, please see the source document.

**Appropriate engineering controls**

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash fountain and emergency showers are recommended.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Avoid contact with eyes. Use safety eyewear with splash guards or side shields, chemical goggles, or face shields.

**Skin protection**

**Hand protection** Wear appropriate chemical resistant gloves.

**Other** Wear appropriate chemical resistant clothing.

**Respiratory protection** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

**Thermal hazards** None known.

**General hygiene considerations** When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties**

**Appearance** Clear, light amber liquid

**Physical state** Liquid.

**Form** Liquid.

**Color** Light Amber

**Odor** Non-objectional odor.

<b>Odor threshold</b>	Not available.
<b>pH</b>	12 - 13.5
<b>Melting point/freezing point</b>	Not applicable / Not available
<b>Initial boiling point and boiling range</b>	214 °F (101.11 °C)
<b>Flash point</b>	151.0 °F (66.1 °C) Tag Closed Cup
<b>Evaporation rate</b>	<1 Ethyl ether=1
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	16.8 mm Hg
<b>Vapor density</b>	0.8814 Air=1
<b>Relative density</b>	1.068
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	100 % Complete
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	8.38 lb/gal
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.
<b>Percent volatile</b>	65 - 67 %
<b>VOC</b>	11.61 % Concentrate

## 10. Stability and reactivity

<b>Reactivity</b>	Reacts violently with strong acids. This product may react with oxidizing agents.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. Do not mix with other chemicals.
<b>Incompatible materials</b>	Strong acids. Strong oxidizing agents. Oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
<b>Skin contact</b>	Causes severe skin burns.  Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.
<b>Eye contact</b>	Causes serious eye damage.
<b>Ingestion</b>	Causes digestive tract burns. Harmful if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics**

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

**Information on toxicological effects**

**Acute toxicity**

In high concentrations, vapors are anesthetic and may cause headache, fatigue, dizziness and central nervous system effects. Harmful if swallowed.

**Product**

**Species**

**Test Results**

DefCon -2R & DefCon -2D

**Acute**

**Dermal**

LD50

Rabbit

10145 mg/kg

**Inhalation**

LC50

Rat

1935 mg/l, 4 Hours

**Components**

**Species**

**Test Results**

Ethanolamine (CAS 141-43-5)

**Acute**

**Dermal**

LD50

Rat

1 g/kg

Isopropanol (CAS 67-63-0)

**Acute**

**Dermal**

LD50

Rabbit

12800 mg/kg

**Inhalation**

LC50

Rat

51.05 mg/l, 8 Hours

**Oral**

LD50

Rat

4710 mg/kg

Lauramine Oxide (CAS 1643-20-5)

**Acute**

**Oral**

LD50

Rat

> 20 g/kg

**Skin corrosion/irritation**

Causes severe skin burns and eye damage.

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Respiratory or skin sensitization**

**Respiratory sensitization**

Not a respiratory sensitizer.

**Skin sensitization**

This product is not expected to cause skin sensitization.

**Germ cell mutagenicity**

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity**

Not classifiable as to carcinogenicity to humans.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

**US. National Toxicology Program (NTP) Report on Carcinogens**

Not listed.

**Reproductive toxicity**

This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure**

May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

Not classified.

<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Prolonged inhalation may be harmful. May be harmful if absorbed through skin.  Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.

## 12. Ecological information

**Ecotoxicity** Toxic to aquatic life.

Product		Species	Test Results
DefCon -2R & DefCon -2D			
<b>Aquatic</b>			
Crustacea	EC50	Daphnia	7273.1694 mg/l, 48 hours
Fish	LC50	Fish	3287.1509 mg/l, 96 hours
<i>Acute</i>			
Crustacea	EC50	Daphnia	2842.5068 mg/l, 48 hours estimated
Fish	LC50	Fish	687.5144 mg/l, 96 hours estimated
<b>Components</b>			
<b>Species</b>			
<b>Test Results</b>			
Ethanolamine (CAS 141-43-5)			
<b>Aquatic</b>			
<i>Acute</i>			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	114 - 196 mg/l, 96 hours
Isopropanol (CAS 67-63-0)			
<b>Aquatic</b>			
<i>Acute</i>			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 mg/l, 96 hours
Tetrasodium EDTA (CAS 64-02-8)			
<b>Aquatic</b>			
<i>Acute</i>			
Fish	LC50	Bluegill (Lepomis macrochirus)	472 - 500 mg/l, 96 hours

**Persistence and degradability** No data is available on the degradability of this product.

### Bioaccumulative potential

#### Partition coefficient n-octanol / water (log Kow)

Ethanolamine	-1.31
Isopropanol	0.05
Lauramine Oxide	4.67

**Mobility in soil** No data available.

**Other adverse effects** The product contains volatile organic compounds which have a photochemical ozone creation potential.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

<b>Hazardous waste code</b>	D002: Waste Corrosive material [pH ≤2 or =>12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### DOT

<b>UN number</b>	UN1760
<b>UN proper shipping name</b>	Corrosive liquids, n.o.s.
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary hazard</b>	-
<b>Label(s)</b>	8
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	B2, IB2, T11, TP2, TP27
<b>Packaging exceptions</b>	154
<b>Packaging non bulk</b>	202
<b>Packaging bulk</b>	242

### IATA

<b>UN number</b>	UN1760
<b>UN proper shipping name</b>	Corrosive liquid, n.o.s. (ETHANOLAMINE, TETRA-SODIUM EDTA)
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary hazard</b>	-
<b>Label(s)</b>	8
<b>Packing group</b>	II
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	154
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Other information</b>	
<b>Passenger and cargo aircraft</b>	Allowed with restrictions.
<b>Cargo aircraft only</b>	Allowed with restrictions.

### IMDG

<b>UN number</b>	UN1760
<b>UN proper shipping name</b>	CORROSIVE LIQUID, N.O.S. (ETHANOLAMINE, TETRA-SODIUM EDTA)
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary hazard</b>	-
<b>Label(s)</b>	8
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-A, S-B
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not established.

DOT



IATA; IMDG



## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Toxic Substances Control Act (TSCA)** One or more components of the mixture are not on the TSCA 8(b) inventory or are designated "inactive".

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**Classified hazard categories** Flammable (gases, aerosols, liquids, or solids)  
Acute toxicity (any route of exposure)  
Skin corrosion or irritation  
Serious eye damage or eye irritation  
Specific target organ toxicity (single or repeated exposure)

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Isopropanol	67-63-0	1 - < 3

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Contains component(s) regulated under the Safe Drinking Water Act.

**FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace**

Isopropanol (CAS 67-63-0) Low priority

**US state regulations**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)  
 A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision**

<b>Issue date</b>	02-12-2016
<b>Revision date</b>	04-01-2026
<b>Version #</b>	04
<b>HMIS® ratings</b>	Health: 3 Flammability: 2 Physical hazard: 0

**Disclaimer**

No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

**Revision information**

Composition / Information on Ingredients: Disclosure Overrides  
 Physical & Chemical Properties: Multiple Properties  
 GHS: Classification