

## 1. IDENTIFICATION

### Product Identifier

**Product Name** FORMULA FOUR-FINISHED

### Other means of identification

**SDS #** ACT-1451

**Product Code** 1451

**UN/ID No** UN3266

### Recommended use of the chemical and restrictions on use

**Recommended Use** Concentrated industrial cleaning solution. For professional use only.

### Details of the supplier of the safety data sheet

**Supplier Address**  
 NUANCE SOLUTIONS  
 900 East 103rd Street  
 Chicago, IL 60628

### Emergency Telephone Number

**Company Phone Number** Phone: 800-621-8553  
 Fax:800-621-1276  
**Emergency Telephone (24 hr)** INFOTRAC 1-352-323-3500 (International)  
 1-800-535-5053 (North America)

## 2. HAZARDS IDENTIFICATION

**Appearance** Clear red liquid                      **Physical State** Liquid                      **Odor** Bland

### Classification

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 2

### Signal Word

**Danger**

### Hazard Statements

Causes severe skin burns and eye damage  
 Suspected of causing cancer



**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapors/spray  
 Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood

**Precautionary Statements - Response**

Immediately call a poison center or doctor/physician  
 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 or doctor/physician  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 Wash contaminated clothing before reuse  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Immediately call a poison center or doctor/physician  
 IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
 Immediately call a poison center or doctor/physician

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other Hazards**

Harmful to aquatic life with long lasting effects

**Unknown Acute Toxicity**

1.5% of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Potassium hydroxide	1310-58-3	<5
EDTA	60-00-4	1-5
Triethanolamine	102-71-6	<5
Sodium hydroxide	1310-73-2	<1
Diethanolamine	111-42-2	<1

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

### 4. FIRST-AID MEASURES

**First Aid Measures**

<b>Eye Contact</b>	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 or doctor/physician.
<b>Skin Contact</b>	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
<b>Ingestion</b>	IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

**Most important symptoms and effects**

**Symptoms** Causes severe skin burns and eye damage.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** Not determined.

**Specific Hazards Arising from the Chemical**

Material is corrosive.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Use personal protective equipment as required.

**Environmental Precautions** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

**Methods and material for containment and cleaning up**

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Clean-Up** Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on Safe Handling** Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Wash face, hands, and any exposed skin thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep container tightly closed and store in a cool, dry and well-ventilated place. Store locked up. Keep out of the reach of children.

**Incompatible Materials** Acids. Oxidizing agents. Bleach. Do not mix with other chemicals or cleaners.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m <sup>3</sup>	(vacated) Ceiling: 2 mg/m <sup>3</sup>	Ceiling: 2 mg/m <sup>3</sup>
Triethanolamine 102-71-6	TWA: 5 mg/m <sup>3</sup>	-	-
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> (vacated) Ceiling: 2 mg/m <sup>3</sup>	IDLH: 10 mg/m <sup>3</sup> Ceiling: 2 mg/m <sup>3</sup>
Diethanolamine 111-42-2	TWA: 1 mg/m <sup>3</sup> inhalable fraction and vapor S*	(vacated) TWA: 3 ppm (vacated) TWA: 15 mg/m <sup>3</sup>	TWA: 3 ppm TWA: 15 mg/m <sup>3</sup>
Proprietary	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 980 mg/m <sup>3</sup> (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m <sup>3</sup> (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1225 mg/m <sup>3</sup>

**Appropriate engineering controls**

**Engineering Controls** Apply technical measures to comply with the occupational exposure limits. Eyewash stations. Showers.

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

**Eye/Face Protection** Wear approved safety goggles where a splash hazard exists.

**Skin and Body Protection** Wear suitable protective clothing.

**Respiratory Protection** Ensure adequate ventilation, especially in confined areas.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Physical State</b>	Liquid	<b>Odor</b>	Bland
<b>Appearance</b>	Clear red liquid	<b>Odor Threshold</b>	Not determined
<b>Color</b>	Red		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	13.5 (concentrate)	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	100 °C / 212 °F	IBP
Flash Point	None to boiling	Tag Closed Cup
Evaporation Rate	Equal to water	
Flammability (Solid, Gas)	Liquid-not applicable	
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Specific Gravity	1.05	
Water Solubility	Soluble in water	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	

<b>Decomposition Temperature</b>	Not determined
<b>Kinematic Viscosity</b>	Not determined
<b>Dynamic Viscosity</b>	Not determined
<b>Explosive Properties</b>	Not determined
<b>Oxidizing Properties</b>	Not determined
<b>VOC Content (%)</b>	<1
<b>Density</b>	8.76 lb/gal

## 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions.

### Chemical Stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

**Hazardous Polymerization**      Hazardous polymerization does not occur.

### Conditions to Avoid

Keep out of reach of children.

### Incompatible Materials

Acids. Oxidizing agents. Bleach. Do not mix with other chemicals or cleaners.

### Hazardous Decomposition Products

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Eye Contact</b>	Causes severe eye damage.
<b>Skin Contact</b>	Causes severe skin burns.
<b>Inhalation</b>	Avoid breathing vapors or mists.
<b>Ingestion</b>	Do not taste or swallow.

### Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg ( Rat )	-	-
Potassium hydroxide 1310-58-3	= 214 mg/kg ( Rat )	-	-
EDTA 60-00-4	= 1700 mg/kg ( Rat )	-	-
Noxonyl 9016-45-9	= 1310 mg/kg ( Rat )	= 2 mL/kg ( Rabbit )	-
Triethanolamine 102-71-6	= 4190 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit ) > 16 mL/kg ( Rat )	-
Sodium hydroxide 1310-73-2	-	= 1350 mg/kg ( Rabbit )	-

Proprietary	= 20000 mg/kg ( Rat )	= 20800 mg/kg ( Rabbit )	-
Diethanolamine 111-42-2	= 620 µL/kg ( Rat )	= 7640 µL/kg ( Rabbit )	-
Proprietary	= 4396 mg/kg ( Rat )	= 12800 mg/kg ( Rat ) = 12870 mg/kg ( Rabbit )	= 72.6 mg/L ( Rat ) 4 h

### Information on physical, chemical and toxicological effects

#### Symptoms

Please see section 4 of this SDS for symptoms.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen. However, the product as a whole has not been tested.

Chemical Name	ACGIH	IARC	NTP	OSHA
Triethanolamine 102-71-6		Group 3		
Diethanolamine 111-42-2	A3	Group 2B		X

**ACGIH (American Conference of Governmental Industrial Hygienists)**

A3 - Animal Carcinogen

**IARC (International Agency for Research on Cancer)**

Group 2B - Possibly Carcinogenic to Humans

Group 3 IARC components are "not classifiable as human carcinogens"

**OSHA (Occupational Safety and Health Administration of the US Department of Labor)**

X - Present

### Numerical measures of toxicity

Not determined

#### Unknown Acute Toxicity

1.5% of the mixture consists of ingredient(s) of unknown toxicity.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Harmful to aquatic life with long lasting effects.

### Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Potassium hydroxide 1310-58-3		80: 96 h Gambusia affinis mg/L LC50 static		
EDTA 60-00-4	1.01: 72 h Desmodosmus subspicatus mg/L EC50	34 - 62: 96 h Lepomis macrochirus mg/L LC50 static 44.2 - 76.5: 96 h Pimephales promelas mg/L LC50 static		113: 48 h Daphnia magna mg/L EC50 Static
Triethanolamine 102-71-6	216: 72 h Desmodosmus subspicatus mg/L EC50 169: 96 h Desmodosmus subspicatus mg/L EC50	10600 - 13000: 96 h Pimephales promelas mg/L LC50 flow-through 1000: 96 h Pimephales promelas mg/L LC50 static 450 - 1000: 96 h Lepomis macrochirus mg/L LC50 static		1386: 24 h Daphnia magna mg/L EC50
Sodium hydroxide 1310-73-2		45.4: 96 h Oncorhynchus mykiss mg/L LC50 static		

Proprietary	19000: 96 h Pseudokirchneriella subcapitata mg/L EC50	51600: 96 h Oncorhynchus mykiss mg/L LC50 static 41 - 47: 96 h Oncorhynchus mykiss mL/L LC50 static 51400: 96 h Pimephales promelas mg/L LC50 static 710: 96 h Pimephales promelas mg/L LC50		10000: 24 h Daphnia magna mg/L EC50 1000: 48 h Daphnia magna mg/L EC50 Static
Diethanolamine 111-42-2	7.8: 72 h Desmodesmus subspicatus mg/L EC50 2.1 - 2.3: 96 h Pseudokirchneriella subcapitata mg/L EC50	4460 - 4980: 96 h Pimephales promelas mg/L LC50 flow-through 1200 - 1580: 96 h Pimephales promelas mg/L LC50 static 600 - 1000: 96 h Lepomis macrochirus mg/L LC50 static	EC50 = 73 mg/L 5 min EC50 > 16 mg/L 16 h	55: 48 h Daphnia magna mg/L EC50
Proprietary	1000: 96 h Desmodesmus subspicatus mg/L EC50 1000: 72 h Desmodesmus subspicatus mg/L EC50	9640: 96 h Pimephales promelas mg/L LC50 flow-through 11130: 96 h Pimephales promelas mg/L LC50 static 1400000: 96 h Lepomis macrochirus µg/L LC50		13299: 48 h Daphnia magna mg/L EC50

**Persistence/Degradability**

Not determined.

**Bioaccumulation**

Not determined.

**Mobility**

Chemical Name	Partition Coefficient
Potassium hydroxide 1310-58-3	0.83
Triethanolamine 102-71-6	-2.53
Diethanolamine 111-42-2	-2.18

**Other Adverse Effects**

Not determined

**13. DISPOSAL CONSIDERATIONS**

**Waste Treatment Methods**

**Disposal of Wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated Packaging** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**California Hazardous Waste Status**

Chemical Name	California Hazardous Waste Status
Potassium hydroxide 1310-58-3	Toxic Corrosive
Sodium hydroxide 1310-73-2	Toxic Corrosive

**14. TRANSPORT INFORMATION**

**Note** Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

**DOT**

**UN/ID No** UN3266  
**Proper Shipping Name** Corrosive liquid, basic, inorganic, n.o.s. (Potassium hydroxide)  
**Hazard Class** 8  
**Packing Group** II

**IATA**

**UN/ID No** UN3266  
**Proper Shipping Name** Corrosive liquid, basic, inorganic, n.o.s. (Potassium hydroxide)  
**Hazard Class** 8  
**Packing Group** II

**IMDG**

**UN/ID No** UN3266  
**Proper Shipping Name** Corrosive liquid, basic, inorganic, n.o.s. (Potassium hydroxide)  
**Hazard Class** 8  
**Packing Group** II  
**Marine Pollutant** This material may meet the definition of a marine pollutant

**15. REGULATORY INFORMATION****International Inventories**

Not determined

**Legend:**

*TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*  
*DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List*  
*EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*  
*ENCS - Japan Existing and New Chemical Substances*  
*IECSC - China Inventory of Existing Chemical Substances*  
*KECL - Korean Existing and Evaluated Chemical Substances*  
*PICCS - Philippines Inventory of Chemicals and Chemical Substances*

**US Federal Regulations****CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Potassium hydroxide 1310-58-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ
EDTA 60-00-4	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Sodium hydroxide 1310-73-2	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ
Diethanolamine 111-42-2	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Diethanolamine - 111-42-2	111-42-2	<1	1.0
Proprietary -		Proprietary	1.0



**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Potassium hydroxide 1310-58-3 (<5)	1000 lb			X
EDTA 60-00-4 (1-5)	5000 lb			X
Sodium hydroxide 1310-73-2 (<1)	1000 lb			X

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Diethanolamine - 111-42-2	Carcinogen

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Potassium hydroxide 1310-58-3	X	X	X
EDTA 60-00-4	X	X	X
Triethanolamine 102-71-6	X	X	X
Sodium hydroxide 1310-73-2	X	X	X
Proprietary	X		X
Diethanolamine 111-42-2	X	X	X
Proprietary	X	X	X

**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b>	<b>Flammability</b>	<b>Instability</b>	<b>Special Hazards</b>
	3	0	0	Cor
<b>HMIS</b>	<b>Health Hazards</b>	<b>Flammability</b>	<b>Physical Hazards</b>	<b>Personal Protection</b>
	3	0	0	X

**Disclaimer**

The information provided in this Safety Data Sheet 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 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 materials or in any process, unless specified in the text.

**End of Safety Data Sheet**