



January 18, 2018

From NUANCE SOLUTIONS

SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

Product identifier used on the label: Formula Four Finished RTU

Other means of Identification: 1451 (RTU 1:20)

Recommended use of the chemical and restrictions on use: For professional use only.

Manufacturer/Supplier: Nuance Solutions
Address: 900 E 103rd St., Suite D
Chicago, IL 60628, United States
www.nuancesolutions.com

Telephone: 1-800-621-8553
Fax: 1-888-557-3331

24 Hr. Emergency Tel. #: INFOTRAC 1-800-535-5053 (North America) 011-1-352-323-3500 (International Collect)

SECTION 2 - HAZARDS IDENTIFICATION

Classification of the chemical:

Eye Damage/Irritation 2B

Label elements:

Signal Word: Warning

Hazard statement(s)
Causes eye irritation

Precautionary statement(s)
Wash exposed areas thoroughly after handling
Dispose of contents/container in accordance with local regulation

If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

If on skin (or hair): Take off immediately all contaminated clothing. Wash with soap and water, rinse skin with water/shower. If skin irritation occurs get medical advice/attention. Wash contaminated clothing before reuse.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor/physician if you unwell.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical advice/attention

Hazard pictogram(s)

None

Other hazards not otherwise classified: None Known

Unknown Acute Toxicity: 10.1 %

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name, Common Name & Synonyms:	CAS #	Concentration %
POTASSIUM HYDROXIDE	1310-58-3	0.1-1

** If the chemical name/CAS # is "proprietary" and/or the weight % is shown as a range, this information had been withheld as a trade secret.

SECTION 4 - FIRST-AID MEASURES

Description of first aid measures:

If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

If on skin (or hair): Take off immediately all contaminated clothing. Wash with soap and water, rinse skin with water/shower. If skin irritation occurs get medical advice/attention. Wash contaminated clothing before reuse.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor/physician if you unwell.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical advice/attention

Most Important symptoms and effects, both acute and delayed: Causes eye irritation

Indication of any immediate medical attention and special treatment needed: Treat symptomatically

SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing media:

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

Unsuitable extinguishing media: Not determined

Special hazards arising from the substance or mixture: None known

Flammability classification: Not flammable

Hazardous combustion products: Carbon oxides, oxides of phosphorus other unidentified organic compounds.

Special protective equipment and precautions for firefighters:

Protective equipment for fire-fighters: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from firefighting to enter drains or water courses. Dike for water control.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Methods and material for containment and cleaning up: Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply. Ventilate the area. Prevent further leakage or spillage if safe to do so. Soak up with inert absorbent material. Do not use combustible absorbents, such as sawdust. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

Special spill response procedures: In case of a transportation accident, contact Infotrac 1-800-535-5053 (North America), 011-1-352-323-3500 (International). If a spill/release in the US in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling: Handle in accordance with good industrial hygiene and safety practice. Use protective equipment recommended in section 8. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands, and any exposed skin thoroughly after handling.

Conditions for safe storage: Keep container tightly closed and store in a cool, dry and well-ventilated place. Store locked up. Keep out of reach of children.

Incompatible materials: Oxidizing agents. Do not mix with other chemicals or cleaners

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:					
Chemical Name	CAS #	TWA	STEL	OSHA PEL	
				PEL	STEL
POTASSIUM HYDROXIDE	1310-58-3				

Exposure controls:

Ventilation and engineering measures: Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection: If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134). Advice should be sought from respiratory protection specialists.

Skin protection: Wear protective gloves. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. The suitability for a specific workplace should be discussed with the producers of the protective regimes.

Eye face protection: Wear eye/face protection. Wear as appropriate tightly fitting safety goggles; Safety glasses with side-shields.

Other protective equipment: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations: Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear light pink liquid

Odor: Characteristic

Odor threshold: No applicable information available

pH: 12.0

Reserve Alkalinity: NA

Melting/Freezing point: No applicable information available

Initial boiling point and boiling range: No applicable information available

Flash point: No applicable information available

Flashpoint (Method): No applicable information available

Evaporation rate (BuAe = 1): Similar to water

Flammability (solid, gas): Not flammable

Lower flammable limit (% by vol.): Not Flammable

Upper flammable limit (% by vol.): Not Flammable

Vapor pressure: No applicable information available

Vapor density: No applicable information available

Relative density: 8.38 lb/Gal

Solubility in water: No applicable information available

Other solubility(ies): No applicable information available

Partition coefficient: No applicable information available

Auto ignition temperature: No applicable information available

Decomposition temperature: No applicable information available

Viscosity: Water thin

Volatile organic Compounds (%VOC's): <0.05

Other physical/chemical comments: No applicable information available

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: Not normally reactive

Chemical stability: Stable

Possibility of hazardous reactions: No hazardous polymerization

Conditions to avoid: Keep out of reach of children. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

Incompatible materials: Acids, Fluorine, strong oxidizing or reducing agents, bases, metals, sulfur trioxide, phosphorus pentoxide

Hazardous decomposition products: None known. Refer to 'Hazardous Combustion Products' in Section 5

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry - inhalation: Avoid breathing vapors or mists

Routes of entry - skin & eye: Avoid contact with skin or eyes

Routes of entry - Ingestion: Do not taste or swallow

Potential Health Effects:

Signs and symptoms of short term (acute) exposure:

Symptoms: Please see section 4 of this SDS sheet for symptoms.

Potential Chronic Health Effects:

Mutagenicity: Not expected to be mutagenic in humans.

Carcinogenicity: None of the components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects: No applicable information available

Sensitization to material: No applicable information available

Specific target organ effects: No data available to indicate product or components will have specific target organ effects.

Medical conditions aggravated by overexposure: Preexisting skin or eye

Toxicological data:

See the following table for individual ingredient acute toxicity data.

Chemical name	CAS #	LD ₅₀ (Oral, rat)	LD ₅₀ (Dermal. Rabbit)	LC ₅₀ (4hr, Inhal., rat)
POTASSIUM HYDROXIDE	1310-58-3	607		

*All empty cells no applicable information available

Other important toxicological hazards: None reported.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: May be dangerous for the environment. No data is available on the product itself. Should not be released into the environment.

Persistence and degradability: No applicable information available

Bioaccumulation potential: No applicable information available.

Mobility in soil: No applicable information available.

Other Adverse Environmental effects: No applicable information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for disposal: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Methods of disposal: Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

RCRA: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste UN defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14 - TRANSPORTATION INFORMATION

US 49 CFR/DOT information:

UN No.: Not Classified

UN Proper Shipping Name: Not Classified

Transport Hazard Class(es): Not Classified

Packing Group: Not Classified

Special Transportation Notes: Keep from freezing

SECTION 15 - REGULATORY INFORMATION

TSCA information: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

SECTION 16 - OTHER INFORMATION

Legend:

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstract Services

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980

CFR: Code of Federal Regulations

CSA: Canadian Standards Association

DOT: Department of Transportation

ECOTOX: U.S. EPA Ecotoxicology Database

EINECS: European Inventory of Existing Commercial chemical Substances

EPA: Environmental Protection Agency

HSDB: Hazardous Substances Data Bank

IARC: International Agency for Research on Cancer

IUCLID: International Uniform Chemical Information Database

LC: Lethal Concentration

LD: Lethal Dose

NIOSH: National Institute of Occupational Safety and Health

NTP: National Toxicology Program

OECD: Organization for Economic Co operation and Development

OSHA: Occupational Safety and Health Administration

PEL: Permissible exposure limit

RCRA: Resource Conservation and Recovery Act

RTECS: Registry of Toxic Effects of Chemical Substances

SARA: Superfund Amendments and Reauthorization Act

SDS: Safety Data Sheet Material Safety Data Sheet

STEL: Short Term Exposure Limit

TOG: Canadian Transportation of Dangerous Goods Act & Regulations

TLV: Threshold Limit Values

TWA: Time Weighted Average

WHMIS: Workplace Hazardous Materials Identification System

HMIS Hazard Rating

HEALTH	0	0 – Insignificant
FLAMMABILITY	0	1 – Slight
REACTIVITY	0	2 – Moderate
PERSONAL PROTECTION	X	3 – High
		4 – Extreme

DISCLAIMER

Information for this material safety data sheet was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of this supplier, it is assumed that users of this material have been fully trained accordingly to the mandatory requirements of GHS. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of, or reliance on, any information contained within this form.

END OF DOCUMENT