



# SAFETY DATA SHEET

Name of Product:

## POTASSIUM FORMATE 50%

Product #: See Section 1  
Revision Date: July 14, 2015

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Potassium Formate 50%  
SYNONYMS: Formic acid, potassium salt  
PRODUCT CODES: I000044

MANUFACTURER: NACHURS ALPINE SOLUTIONS  
DIVISION: Marion  
ADDRESS: 421 Leader Street  
Marion, OH 43302, United States

PHONE: 800-622-4877 (USA)  
800-265-2268 (CANADA)

EMERGENCY PHONE: United States: Chemtrec: 800-424-9300 (CCN# 15189)  
Canada: CANUTEC 1-613-996-6666  
I TECH 877-324-4402

CHEMICAL NAME: Potassium Formate  
CHEMICAL FAMILY: Potassium salt.  
CHEMICAL FORMULA:  $\text{CHKO}_2$

PRODUCT USES: Drilling Fluid, Deicing Fluid

### SECTION 2: HAZARDS IDENTIFICATION

#### GHS ELEMENTS:

Hazard Classification: Acute Toxicity – Inhalation (Category 4).  
Eye Irritation (Category 2B).

Pictogram:



Signal Word: Warning

Hazard Statements: Harmful if inhaled.  
Causes eye irritation.

Precautionary Statements: Avoid breathing mist, spray or dried product dust.  
Use only outdoors or in a well ventilated area.  
Wash skin thoroughly after handling. Wear protective gloves, clothing, eye and face protection.  
If swallowed, rinse mouth. Do NOT induce vomiting.  
If on hair or skin, remove all contaminated clothing and rinse skin with water.  
If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing.  
If in eyes, rinse carefully with water for several minutes. Remove contactlenses, if able and continue rinsing.  
Immediately call a poison center or doctor/physician. See First Aid instruction for specific treatment.  
Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.  
Store in a well ventilated place. Store in a secured location.  
Dispose of contents in accordance with local, regional, state and national regulations.

#### POTENTIAL HEALTH EFFECTS

EYES: May cause irritation.  
SKIN: May cause irritation.  
INGESTION: May cause gastrointestinal irritation, nausea, vomiting and diarrhea.  
INHALATION: May cause irritation in dried form. Do not breathe dust.

ACUTE HEALTH HAZARDS: N/A

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CHRONIC HEALTH HAZARDS: N/A

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: N/A

CARCINOGENICITY:

OSHA: N/A  
ACGIH: N/A  
NTP: N/A  
IARC: N/A  
OTHER: N/A

SECTION 2 NOTES: This material has been classified as a Class 3B Combustible Liquid by past OSHA standards. There is no classification for this hazard in the current American OSHA Hazard Communication Standard (29CFR 1910.1200).

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT:	Potassium Formate	Concentration	OSHA status
		50%	Hazardous

CAS NO.:590-29-4

SARA 313 REPORTABLE: N/A

OSHA PEL-TWA: N/A  
OSHA PEL STEL: N/A  
OSHA PEL CEILING: N/A  
ACGIH TLV-TWA: N/A  
ACGIH TLV STEL: N/A  
ACGIH TLV CEILING: N/A

SECTION 3 NOTES: Balance ingredient is non-hazardous Water CAS NO.: 7732-18-5

## SECTION 4: FIRST AID MEASURES

EYES: Flush with water, also under the eyelids, immediately and thoroughly for 15 minutes. Remove contact lenses. Immediate medical attention is required.  
SKIN: Wash off immediately with soap and water. When symptoms persist or in all cases of doubt seek medical advice.  
INGESTION: Call a physician immediately. Do not induce vomiting without medical advice.  
INHALATION: Keep at rest. Aerate with fresh air. When symptoms persist or in all cases of doubt seek medical advice.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Treat symptomatically.

SECTION 4 NOTES: Remove contaminated, soaked clothing immediately and dispose of safely. First aide responder needs to protect himself.

## SECTION 5: FIRE-FIGHTING MEASURES

FLAMABILITY: Not flammable.

FLAMMABLE LIMITS IN AIR: UPPER: N/A  
(% BY VOLUME) LOWER: N/A

FLASH POINT:  
F°: >212  
C°: >100

METHOD USED: Closed cup.

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## AUTOIGNITION TEMPERATURE:

F°: >750

C°: >400

THERMAL DECOMPOSITION: >360°C

## NFPA HAZARD CLASSIFICATION:

HEALTH: 1

FLAMMABILITY: 1

REACTIVITY: 0

OTHER: 0

## HMIS HAZARD CLASSIFICATION

HEALTH: 1

FLAMMABILITY: 1

REACTIVITY: 0

PROTECTION: D

## EXTINGUISHING MEDIA:

Foam, dry chemical, carbon dioxide (CO<sub>2</sub>), water spray. Do not use a solid water stream as it may scatter and spread fire.

## SPECIAL FIRE FIGHTING PROCEDURES:

Fire fighter protection should include a self-contained breathing apparatus (NIOSH approved or EN 133) and full fire-fighting turn-out gear.

## UNUSUAL FIRE AND EXPLOSION HAZARDS:

OSHA Flammability classification: Combustible liquid Class III B

## HAZARDOUS DECOMPOSITION PRODUCTS:

Hazardous gases produced may consist of: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>).

## SECTION 5 NOTES:

Cool containers/ tanks with water spray. Dike and collect water used to fight fire. Keep people away from and upwind of fire.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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**ACCIDENTAL RELEASE MEASURES:** Stop the flow of material, if possible without risk. Dike spilled material, where this is possible. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. If liquid has been spilled in large quantities clean up promptly by scoop or vacuum. Dispose of in accordance with local, state and federal regulations. Take necessary action to avoid static electric discharge (which might cause ignition of organic vapors).

**SECTION 6 NOTES:** Do not discharge product into the aquatic environment without pretreatment (biological treatment plant).

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## SECTION 7: HANDLING AND STORAGE

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**HANDLING AND STORAGE:** Avoid contact with skin, eyes and clothing. Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care. Keep away from sources of ignition- No Smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

**OTHER PRECAUTIONS:** In case of fire, emergency cooling with water spray should be available. Ground and bond containers when transferring material.

**SECTION 7 NOTES:** Always use good safety and industrial hygienic practices.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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**ENGINEERING CONTROLS:** General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion- proof equipment (for example fans, switches, and grounded ducts) should be used for mechanical ventilation.

**VENTILATION:** Local ventilation is usually preferred. Explosion-proof mechanical ventilation is advised when local ventilation

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Is inadequate.

RESPIRATORY PROTECTION: Respirator with filter for organic vapor. Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release. Equipment should conform to NIOSH regulations.

EYE PROTECTION: Chemical splash goggles and full-face shield.

SKIN PROTECTION: Rubber gloves.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Impervious clothing to prevent skin contact.

WORK HYGIENIC PRACTICES: Always use good safety and industrial hygienic practices.

EXPOSURE GUIDELINES: No exposure limits established.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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APPEARANCE: Clear, nearly colorless to yellow liquid.

ODOR: Odorless to slight sweet odor.

ODOR THRESHOLD: No data available.

PHYSICAL STATE: Liquid.

pH (neat): 8 - 11

MELTING POINT: N/A

CRYSTALLIZATION POINT: F°: -67 to 41  
C°: -55 to 5

BOILING POINT: F°: 230-280  
C°: 110-138

FLASH POINT: F°: >212  
C°: >100

METHOD USED: Closed cup.

EVAPORATION RATE: N/A

FLAMABILITY: Not flammable.

FLAMMABLE LIMITS IN AIR: UPPER: N/A  
(% BY VOLUME) LOWER: N/A

VAPOR PRESSURE (mmHg): Not determined.

VAPOR DENSITY (AIR = 1): Not determined.

SPECIFIC GRAVITY (H<sub>2</sub>O = 1): 1.26-1.57

DENSITY, LBS/GAL: 10.5-13.2

SOLUBILITY IN WATER: Miscible in all proportions.

PARTITION COEFFICIENT: n-octanol/water – N/A

PERCENT SOLIDS w/w%: 50

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PERCENT VOLATILE: Variable depending on concentration.

VOLATILE ORGANIC COMPOUNDS (VOC): None

AUTOIGNITION TEMPERATURE:

F°: >750

C°: >400

THERMAL DECOMPOSITION: >360°C

VISCOSITY centipoise (cP) @ 20°C:

40% = 2.1 cP

50% = 3.1 cP

60% = 5.2 cP

75% = 19.1 cP

MOLECULAR WEIGHT: 84.12

## SECTION 10: STABILITY AND REACTIVITY

	STABLE	UNSTABLE
STABILITY: Stable under recommended storage conditions.	x	
CONDITIONS TO AVOID (STABILITY):	Avoid contact with heat, sparks, open flame, and static discharge. Avoid any source of ignition.	
INCOMPATIBILITY (MATERIAL TO AVOID):	N/A	
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	No decomposition if stored and applied as directed.	
HAZARDOUS POLYMERIZATION:	N/A	
CONDITIONS TO AVOID (POLYMERIZATION):	N/A	

## SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: Potassium Formate (CAS# 590-29-4)

LD50 (Oral, mouse): 5500 mg/kg  
LD50 (Dermal, rat) : >2000 mg/kg  
LC50 (Inhalation, rat) : >0.67 mg/l (4hr)

Irritation and corrosion: Eyes (rabbit): No eye irritation  
Skin (rabbit): No skin irritation

SECTION 11 NOTES: Handle in accordance with good industrial hygiene and safety practice

## SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: Avoid release to the environment.

LC<sub>50</sub> (Oncorhynchus mykiss, 96 hr :>1000 mg/l  
LC<sub>50</sub> (Pimephales promelas, (fathead minnow), 96 hr :>1000 mg/l  
EC<sub>50</sub> Water flea (Daphnia magna), 48 hr : >1000 mg/l  
EC<sub>50</sub> (Pseudokirchneriella subcapitata), 72 hr :>1000 mg/l (growth rate)

SECTION 12 NOTES: This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB).

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## SECTION 13: DISPOSAL CONSIDERATIONS

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WASTE DISPOSAL METHOD: Disposal required in compliance with all waste management related local, state and federal regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal. Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

RCRA HAZARD CLASS: N/A

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## SECTION 14: TRANSPORT INFORMATION

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U.S. DEPARTMENT OF TRANSPORTATION: D.O.T (49 CFR) Not restricted

PROPER SHIPPING NAME: Potassium Formate, Solution

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

WATER TRANSPORTATION (IMDG):

PROPER SHIPPING NAME: Potassium Formate, Solution

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

AIR TRANSPORTATION (IATA):

PROPER SHIPPING NAME: Potassium Formate, Solution

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

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## SECTION 15: REGULATORY INFORMATION

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U.S. FEDERAL REGULATIONS:

TSCA (TOXIC SUBSTANCE CONTROL ACT): Yes

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): No

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): N/A

311/312 HAZARD CATEGORIES: N/A

313 REPORTABLE INGREDIENTS:

STATE REGULATIONS:

INTERNATIONAL REGULATIONS: Schedule B Code: 2915.12.0000

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## SECTION 16: OTHER INFORMATION

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OTHER INFORMATION:

PREPARATION INFORMATION: Technical Services

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