



WEST BENGAL CHEMICAL INDUSTRIES LIMITED

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Section 1 - Chemical Product and Company Identification

1.1 MSDS Name: Potassium Diformate

1.2 Product Code: PDFNL45

1.3. Relevant identified uses of the substance or mixture and uses advised against:

Preservative, feed additive, Industrial uses

1.4 Company Identification:

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Section 2 – Hazards Identification

2.1 Classification of the substance or mixture

Classification: According to Regulation (EC) No1272/2008.

2.1.1 Hazard classification

Eye Irrit. 2

2.2 Signal:

warning

2.3 Hazard statement

H319 (97.8%): Causes serious eye irritation

2.4 Precautionary statement

- **P264+P265:** Wash hands thoroughly after handling. Avoid contact with eyes, skin, or clothing until proper hygiene measures are taken.

Prevention

- **P280:** Wear protective gloves, protective clothing, and eye/face protection to minimize exposure.

Response

- **P305+P351+P338:** If in eyes: Rinse cautiously with water for several



Section 2 – Hazards Identification

minutes. Remove contact lenses if present and easy to do. Continue rinsing.

- **P337+P317:** If eye irritation persists: Get medical attention or advice immediately.

2.5 Hazard symbol(s): Xi Irritant.

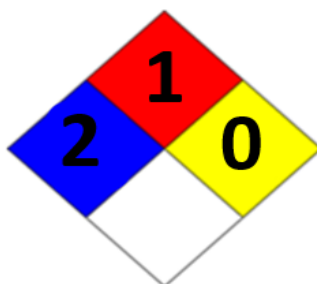
R-phrases: R36 Irritating to eyes.

S-phrases: S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

2.6 Pictogram



2.7 NFPA SCALE



NFPA SCALE (0-4)

2.7 HIMS RATINGS:

Health	1
Flammability	0
Physical Hazard	0
Personal protection	X

HMS RATINGS (0-4)



Section 3 - Composition / Information on Ingredients

3.1 Ingredient Name: Potassium Di Formate

3.2 CAS Number: 20642-05-1

3.3 EC number: 243-934-6

3.4 Synonym: Formic acid, potassium salt (2:1), POTASSIUM BIFORMATE

3.5 Molecular formula: $C_2H_3KO_4$

3.6 Molecular weight: 130.14 g/mol

3.7 % wt: 100

Section 4 - First Aid Measures

4.1 Description of first aid measures

4.1.1 Inhalation: Move exposed person to fresh air. If not breathing, seek immediate medical attention. If breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel and seek medical attention

4.1.2 Ingestion:

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek medical attention.

4.1.3 Skin contact:

Remove contaminated clothing and shoes and immediately flush skin with plenty of water for at least 15 minutes.

4.1.4 Eye contact

Rinse immediately with plenty of running water. Consult medical attention for eyes immediately.

4.2 First-aid facilities:

No special recommendations.

4.3 Most important symptoms and effects, both acute and delayed:

4.3.1 Acute Effects:

- **Inhalation:** May cause mild respiratory irritation. Symptoms include coughing, sneezing, or shortness of breath.



- **Skin Contact:** May cause mild irritation, redness, or dryness upon direct contact.
- **Eye Contact:** Can result in mild to moderate irritation, redness, and watering of the eyes. Prolonged exposure may worsen symptoms.
- **Ingestion:** Low toxicity, but may cause mild gastrointestinal discomfort, such as nausea, vomiting, or diarrhea, if ingested in significant quantities.

4.3.2 Delayed Effects:

- Prolonged or repeated exposure may lead to skin dryness or dermatitis.
- Chronic exposure is unlikely to result in severe health effects but may exacerbate pre-existing skin or respiratory conditions.

4.4 Indication of any immediate medical attention and special treatment needed:

Ensure symptomatic treatment is provided. Prolonged irritation or repeated exposure to high concentrations should be assessed for potential sensitization or respiratory complications.

Section 5 - Fire-Fighting Measures

5.1 Fire extinguishing media:

Use fire-extinguishing media (Carbon dioxide, dry extinguishing media, foam, water) appropriate to the surrounding fire

5.2 Hazardous combustion products:

In case of fire, may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, sodium oxide

5.2.1 Fire:

Not considered a fire hazard.

5.2.2 Explosion:

Not considered an explosion hazard

5.2.3 Special information:



In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus with full-face piece operated in the pressure demand or other positive pressure mode.

Specific hazards arising from the chemical: Carbon oxides, Potassium oxides

Section 6 - Accidental Release Measures

6.1 Personal precautions:

Ensure good ventilation. Avoid formation of dust and inhalation of dust. See protective measures under point 7 and 8. Environmental precautions Do not allow to enter drains/surface water/ground-water.

6.2 Spill control & recovery:

Wear appropriate personal protective equipment as specified in Section 8. Clean up spills in a manner that does not disperse dust into the air. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

6.2.1 Small spill and leak

Wash with plenty of water.

6.2.2 Large spill and leak

Collect spill in suitable containers by mechanical means. Avoid dust formation.

6.3 Disposal:

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations.

Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 7 - Handling and Storage

7.1 Handling:

Avoid contact with eyes. Avoid breathing dust. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in



the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.

7.2 Storage:

Section 7 - Handling and Storage

Store in accordance with local regulations. Store in original container, protected from direct sunlight. Keep container tightly closed and sealed until ready for use

7.3 Packaging materials:

Suitable Polyethylene or Material, chemical-resistant. See section 10 for stability and reactivity.

Section 8 - Exposure Controls / Personal Protection

8.1 Engineering controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne Contaminants below the exposure limit.

8.2 Hygiene measures:

When using does not eat, drink or smoke. Wash hands after handling compounds and before eating, smoking and using the lavatory at the end of the day.

8.3 Personal protection:

8.3.1 Respiratory system

Breathing protection if breathable aerosols/dust is formed. Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2).

8.3.2 Skin and body

Wear appropriate protective gloves to prevent skin exposure, as defined in EU Directive 89/686/EEC and the standard EN 374 derived from it.

8.3.3 Eyes

Wear appropriate protective safety glasses with sideshields conforming to EN166, chemical safety goggles or face-shield (min. 8-inch) as described by OSHA's eye and face protection regulations. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).



Section 8 - Exposure Controls / Personal Protection

8.3.4 Hands

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact and other.

Supplementary note

The specifications are based on own tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the determined permeation time.

8.3.5 Respiratory protection:

If breathable aerosols/dust is formed, use Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2).

Recommended material(s)

> 8 hours (breakthrough time): Nitril rubber, butyl rubber, neoprene, Viton, PVC. Replace damaged gloves. Advice on personal protection is applicable for high exposure levels. Select proper personal protection based on a risk assessment of the actual situation.

8.4 Personal precaution in case of a large spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

8.5 Exposure limits:

Consult local authorities for acceptable exposure limits.

Section 9 - Physical and Chemical Properties

Appearance:	Free flowing powder with Occasional friable lumps.
Odour:	Data not available/does not apply.
Odour threshold:	Data not available/does not apply.
pH:	7.0 – 8.5 (1M aq. Solution); 4.1 – 4.4 (10% w/v Concentration)
Melting point:	~109 °C.



Boiling point:	465° C
Decomposition temp.:	> 130 °C
Bulk density:	~ 0.9 – 1.0 g/cm3

Section 9 - Physical and Chemical Properties

Flash point:	Data not available/does not apply.
Evaporation rate:	Data not available/does not apply.
Specific gravity:	1.9100 g/cm3
Flammability:	Data not available/does not apply.
Flammability or explosive limits:	Data not available/does not apply.
Danger of explosion:	Data not available/does not apply.
Vapor pressure:	Data not available/does not apply.
Vapor density:	Data not available/does not apply.
Relative density:	Data not available/does not apply.
Solubility:	Data not available/does not apply.
Partition coefficient:	n-octanol/water Data not available/does not apply.
Auto-ignition temperature:	Data not available/does not apply.
Decomposition temperature:	Data not available/does not apply.
Viscosity:	Data not available/does not apply.

Section 10 - Stability and Reactivity

10.1 Stability:

The product is stable at normal conditions.

10.2 Instability Temperature:

Not available

10.3 Conditions to avoid:

Dust generation.

10.4 Conditions of Instability:

Exposure to sources of heat, sources of ignition, open flame

10.5 Incompatibility with various substances:

Oxidizing substances, inorganic acids

10.6 Hazardous decomposition products:



Carbon oxides, potassium oxides

10.7 Corrosivity:

Non-corrosive in presence of glass

Section 10 - Stability and Reactivity**10.8 Special remarks on Reactivity:**

Not available

10.9 Special remarks on Corrosivity:

Not available

10.10 Polymerization:

Will not occur

Section 11 - Toxicological Information**11.1 Potential acute health effects Inhalation:**

Over-exposure by inhalation (dust) may cause respiratory irritation (Coughing).

11.1.1 Ingestion:

There is no known acute effect after over-exposure to this product

11.1.2 Skin Contact:

Slight irritant (redness)

11.1.3 Eye Contact:

Risk for serious damage to eyes

11.2 Acute Toxicity:

Product/ingredient name	Resultant	Species	Dose	Exposure
Potassium diformate	LD50 Oral LD50 Dermal	Rat	>2000 mg/kg >5.15 mg/l	- 4 hours

11.3 Primary irritation:

Product/ingredient name	Test	Species	Evaluation	Method
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Potassium diformate	Skin Eye	Rabbit Rabbit	Not irritant irritant	EEC 84/449,B4 EEC 84/449,B5	
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Section 11 - Toxicological Information

11.4 Sensitization:

No sensitizing effect admits. (OECD Guideline 406)

11.5 Potential Chronic Health Effects :

11.5.1 Chronic Effects:

No known significant effects or critical hazards.

11.5.2 Carcinogenicity:

No known significant effects or critical hazards.

11.5.3 Teratogenicity:

No known significant effects or critical hazards.

11.5.4 Development Effects:

No known significant effects or critical hazards.

11.5.5 Fertility Effects:

No known significant effects or critical hazards.

11.5.6 Chronic toxicity:

No specific Data

11.5.7 Mutagenicity:

Product/Ingredient name	Test	Experiment	Result
Potassium Diformate	Ames test	In vitro, Bacteria	negative

11.5.8 Reproductive toxicity:

The results of animal studies gave no indication of a fertility impairing effect.

Section 12 - Ecological Information



12.1 Ecotoxicity:

Not Available

12.2 BOD 5 and COD:

Not Available

12.3 Products of biodegradation:

Not available

12.4 Toxicity of the products of biodegradation:

The Product itself and its products of degradation are not toxic.

12.5 Special remarks on the products of biodegradation:

Not Available

12.6 Acute aquatic:

Fish:

Value- 3,500mg/l

Test Duration- LC50 (96 h)

Species- Oncorhynchus mykiss

Method- OECD Guideline 203 semistatic

Algae:

Value- > 1,000 mg/l

Test duration- EC50 (72 h)

Species- Scenedesmus subspicatus

Method- OECD Guideline static

Daphnia:

Value- 540 mg/l

Test duration- EC50 (48 h)

Species- Daphnia magna

Method- OECD Guideline 202

12.7 Acute toxicity:

Rat:

LD50 Oral- 2000mg/kg

LD50 Dermal- 5.15mg/l (4 hours)



Section 13 - Disposal Considerations

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14 - Transport Information

International transport Regulations

Regulatory Information	UN-Number	Proper shipping name	Class	PG*	Label	Additional Information
ADR/RID-class	Not regulated	-	-	-	-	-

ADNR-Class	Not regulated	-	-	-	-	-
IMDG-Class	Not regulated	-	-	-	-	-
IATA-Class	Not regulated	-	-	-	-	-

PG*: Packing group

DOT (Pictograms)

AS PER IATA REGULATION SAFE FOR CARRAGE, NON-HAZARDOUS AND NON-RESTRICTED.

NO SPECIAL LABELLING OR TRANSPORT MEASURE HAVE BEEN IDENTIFIED.

THIS IS NOT REGULATED AS PER IATA REGULATION



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Section 15 - Regulatory Information

EC-regulations: According to EU directives 67/S48/EEC and 1999/45/EC this product does to labelling as :

Xi, irritant



Risk phrases: R-41-risk of serious damage to eyes

Safety phrases: S22- do not breathe dust

S25- avoid contact with eyes

S26- in case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S39- wear eye/face protection

Remarks

Section 16 - Other Information

Disclaimer: This material safety data sheet is provided as an information resource only.

WEST BENGAL CHEMICAL INDUSTRIES LIMITED believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with

federal,

state, and local regulations.

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03

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