

# Material Safety Data Sheet

DADE BEHRING

VANC Flex® cartridge

MSDS no.

DEDM0023

## 1. Product and company identification

**Product name** : VANC Flex® cartridge

**Synonym** : Dimension® clinical chemistry system Flex® reagent cartridge VANC  
Vancomycin Flex® reagent cartridge

**Code** : DF86

**Material uses** : Pharmaceutical industry: Diagnostic agents.

**Product type** : Liquid.

**Manufactured/supplied** : Dade Behring Inc.  
Corporate Headquarters  
1717 Deerfield Road  
Deerfield, IL 60015-0778  
1-847-267-5300

Dade Behring Canada Inc.  
1200 Courtneypark Drive East  
Mississauga, Ontario, Canada  
L5T-1P2  
(905) 564-7333  
(800) 264-0083

Transportation: (800) 424-9300 (CHEMTREC)  
Medical: (800) 228-5635 ext. 284 (Prosar)

## 2. Hazards identification

**Physical state** : Liquid.

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Emergency overview** : Warning!  
CAUSES SEVERE EYE AND SKIN IRRITATION.  
CAUSES RESPIRATORY TRACT IRRITATION.  
MAY CAUSE ALLERGIC SKIN REACTION.  
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:  
KIDNEYS, LUNGS, NERVOUS SYSTEM, GASTROINTESTINAL TRACT,  
RESPIRATORY TRACT, SKIN, EYE, LENS OR CORNEA.

Severely irritating to the eyes and skin. Irritating to respiratory system. May cause sensitization by skin contact. Do not breathe vapor or mist. Do not get in eyes or on skin or clothing. May cause target organ damage, based on animal data. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

**Routes of entry** : Dermal contact. Eye contact. Inhalation.

**Potential acute health effects**

**Inhalation** : Irritating to respiratory system.

**Ingestion** : Harmful if swallowed.

**Skin** : Severely irritating to the skin. May cause sensitization by skin contact.

**Eyes** : Severely irritating to eyes.

**Potential chronic health effects**

**Chronic effects** : May cause target organ damage, based on animal data.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

## 2 . Hazards identification

### Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Ingestion** : No specific data.
- Skin** : Adverse symptoms may include the following:  
irritation  
redness
- Eyes** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

See toxicological information (section 11)

## 3 . Composition/information on ingredients

### United States

<u>Name</u>	<u>CAS number</u>	<u>%</u>
sodium chloride	7647-14-5	6
sodium hydroxide	1310-73-2	<2
boric acid	10043-35-3	1
mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [ec no. 247-500-7] and 2-methyl-2h-isothiazol-3-one [ec no. 220-239-6] (3:1)	55965-84-9	<0.01

### Canada

<u>Name</u>	<u>CAS number</u>	<u>%</u>
sodium hydroxide	1310-73-2	<2
boric acid	10043-35-3	1

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

## 4 . First aid measures

- Eye contact** : Get medical attention immediately. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Chemical burns must be treated promptly by a physician.
- Skin contact** : Flush contaminated skin with plenty of water. Continue to rinse for at least 10 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention.
- Inhalation** : Move exposed person to fresh air. Loosen tight clothing such as a collar, tie, belt or waistband. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.
- Ingestion** : Move exposed person to fresh air. Loosen tight clothing such as a collar, tie, belt or waistband. Never give anything by mouth to an unconscious person. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

## 5 . Fire-fighting measures

**Flammability of the product** : Aqueous solutions are non-flammable.

### Extinguishing media

In case of fire, use water spray (fog), foam or dry chemical.

**Not suitable** : None known.

**Hazardous combustion products** : Decomposition products may include the following materials:  
halogenated compounds  
metal oxide/oxides

## 5 . Fire-fighting measures

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6 . Accidental release measures

**Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Put on appropriate personal protective equipment (see section 8).

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## 7 . Handling and storage

**Handling** : Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Avoid breathing vapor or mist. Wash thoroughly after handling.

**Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area.

## 8 . Exposure controls/personal protection

### Product name

### Exposure limits

#### United States

sodium hydroxide

**ACGIH TLV (United States, 1/2005).**

CEIL: 2 mg/m<sup>3</sup> Form: All forms

**NIOSH REL (United States, 12/2001).**

CEIL: 2 mg/m<sup>3</sup> Form: All forms

**OSHA PEL (United States, 8/1997).**

TWA: 2 mg/m<sup>3</sup> 8 hour(s). Form: All forms

boric acid

**ACGIH TLV (United States, 1/2005).**

STEL: 6 mg/m<sup>3</sup> 15 minute(s). Form: All forms

TWA: 2 mg/m<sup>3</sup> 8 hour(s). Form: All forms

#### Canada

sodium hydroxide

**ACGIH TLV (United States, 1/2007).**

C: 2 mg/m<sup>3</sup>

boric acid

**ACGIH TLV (United States, 1/2007).**

STEL: 6 mg/m<sup>3</sup> 15 minute(s).

TWA: 2 mg/m<sup>3</sup> 8 hour(s).

**Consult local authorities for acceptable exposure limits.**

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

**Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protection

## 8 . Exposure controls/personal protection

- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9 . Physical and chemical properties

- Physical state** : Liquid.
- pH** : Basic.
- Ionicity (in water)** : Amphoteric. (water).

## 10 . Stability and reactivity

- Stability** : The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.
- Conditions to avoid** : No specific data.
- Materials to avoid** : No specific data.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Hazardous polymerization** : Will not occur.
- Conditions of reactivity**
- Flammability** : Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

## 11 . Toxicological information

### United States

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
sodium chloride	LD50 Dermal	Rabbit	>10 g/kg	-
	LD50 Intraperitoneal	Rat	2600 mg/kg	-
	LD50 Oral	Rat	3000 mg/kg	-
	LDLo	Rat	3.72 g/kg	-
	LDLo Intraperitoneal	Rat	3500 mg/kg	-
	LDLo Subcutaneous	Rat	3500 mg/kg	-
mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	LD50 Oral	Rat	53 mg/kg	-
neomycin sulfate (internal use)	LD50	Rat	200 mg/kg	-
	Subcutaneous			

## 11 . Toxicological information

TDL <sub>o</sub>	Rat	714.3 ug/kg	-
Intracerebral			
TDL <sub>o</sub> Intraspinal	Rat	36.88 ug/kg	-

### Chronic toxicity

Not available.

### Carcinogenicity

Not available.

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
sodium chloride	-	-	-	None.	-	-
boric acid	A4	-	-	None.	-	-

### Mutagenicity

Not available.

### Teratogenicity

Not available.

### Reproductive toxicity

Not available.

## Canada

### Acute toxicity

Not available.

### Chronic toxicity

Not available.

### Carcinogenicity

Not available.

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
sodium chloride	-	-	-	None.	-	-
boric acid	A4	-	-	None.	-	-

### Mutagenicity

Not available.

### Teratogenicity

Not available.

### Reproductive toxicity

Not available.

## 12 . Ecological information

**Environmental effects** : No known significant effects or critical hazards.

### United States

#### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
sodium chloride	-	Acute EC50 2122.55 to 2644 mg/L Fresh water	Daphnia - Ceriodaphnia dubia	48 hours
	-	Acute EC50 402600 to 469200 ug/L Fresh water	Daphnia - Daphnia magna	48 hours

## 12 . Ecological information

	-	Acute LC50 4571 mg/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 6.57 to 6.7 g/L Fresh water	Fish - Pimephales promelas	96 hours
	-	Acute LC50 2000 to 2500 mg/L Fresh water	Daphnia - Ceriodaphnia dubia	48 hours
	-	Acute LC50 1661 mg/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 5.84 to 6.08 g/L Fresh water	Fish - Lepomis macrochirus	96 hours
	-	Acute LC50 3318000 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 3310000 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 1960000 to 2330000 ug/L Fresh water	Daphnia - Ceriodaphnia dubia	48 hours
	-	Acute LC50 1294600 ug/L Fresh water	Fish - Lepomis macrochirus	96 hours
	-	Acute LC50 1000000 ug/L Fresh water	Fish - Morone saxatilis	96 hours
	-	Acute LC50 3.05 to 5.91 g/L Fresh water	Daphnia - Daphnia pulex	48 hours
	-	Acute LC50 6094000 to 7824000 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50 1.47 to 1.57 g/L Fresh water	Daphnia - Daphnia pulex	48 hours
	-	Acute LC50 7461 to 9108 mg/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50 5000000 ug/L Fresh water	Fish - Morone saxatilis	96 hours
	-	Acute LC50 6094 to 7824 mg/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50 6180000 ug/L Fresh water	Fish - Goldfish - Carassius auratus	96 hours
	-	Acute LC50 6170000 ug/L Fresh water	Fish - Goldfish - Carassius auratus	96 hours
sodium hydroxide	-	Acute EC50 40.38 to 47.13 mg/L Fresh water	Daphnia - Ceriodaphnia dubia	48 hours
	-	Acute LC50 125000 ug/L Fresh water	Fish - Gambusia affinis	96 hours
boric acid	-	Acute EC50 777	Daphnia -	48 hours

## 12 . Ecological information

	to 932 ppm Fresh water	Daphnia magna	
-	Acute EC50 226 to 246 ppm Fresh water	Daphnia - Daphnia magna	48 hours
-	Acute EC50 133 to 153 ppm Fresh water	Daphnia - Daphnia magna	48 hours
-	Acute LC50 >1100 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
-	Acute LC50 >1021 ppm Fresh water	Fish - Lepomis macrochirus	96 hours
-	Acute LC50 >800 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
-	Acute LC50 5600 ppm Fresh water	Fish - Gambusia affinis	96 hours
-	Acute LC50 50 to 100 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
-	Acute LC50 >100000 ug/L Fresh water	Fish - Gila elegans	96 hours
-	Acute LC50 >100000 ug/L Fresh water	Fish - Ptychocheilus lucius	96 hours
-	Acute LC50 233000 to 293000 ug/L Fresh water	Fish - Xyrauchen texanus	96 hours
-	Acute LC50 125000 to 162000 ug/L Fresh water	Fish - Catostomus latipinnis	96 hours
-	Acute LC50 >100000 ug/L Fresh water	Fish - Xyrauchen texanus	96 hours

### Biodegradability

Not available.

### Canada

#### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
sodium hydroxide	-	Acute EC50 40.38 to 47.13 mg/L Fresh water	Daphnia - Ceriodaphnia dubia	48 hours
	-	Acute LC50 125000 ug/L Fresh water	Fish - Gambusia affinis	96 hours
boric acid	-	Acute EC50 777 to 932 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute EC50 226 to 246 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute EC50 133 to 153 ppm Fresh water	Daphnia - Daphnia magna	48 hours

## 12 . Ecological information

-	Acute LC50 >1100 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
-	Acute LC50 >1021 ppm Fresh water	Fish - Lepomis macrochirus	96 hours
-	Acute LC50 >800 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
-	Acute LC50 5600 ppm Fresh water	Fish - Gambusia affinis	96 hours
-	Acute LC50 50 to 100 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
-	Acute LC50 >100000 ug/L Fresh water	Fish - Gila elegans	96 hours
-	Acute LC50 >100000 ug/L Fresh water	Fish - Xyrauchen texanus	96 hours
-	Acute LC50 233000 to 293000 ug/L Fresh water	Fish - Xyrauchen texanus	96 hours
-	Acute LC50 125000 to 162000 ug/L Fresh water	Fish - Catostomus latipinnis	96 hours
-	Acute LC50 >100000 ug/L Fresh water	Fish - Ptychocheilus lucius	96 hours

### Biodegradability

Not available.

## 13 . Disposal considerations



### Waste disposal

: The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.




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

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## 14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	1824	Sodium Hydroxide solution (sodium hydroxide)	8	III		- No additional remark.
TDG Classification	1824	Sodium hydroxide solution (sodium hydroxide)	8	III		-

## 14 . Transport information

<b>ADR/RID Class</b>	1824	SODIUM HYDROXIDE, SOLUTION (sodium hydroxide)	8	III		-
<b>IMDG Class</b>	1824	SODIUM HYDROXIDE, SOLUTION (sodium hydroxide)	8	III		-
<b>IATA-DGR Class</b>	1824	SODIUM HYDROXIDE, SOLUTION (sodium hydroxide)	8	III		-

PG\* : Packing group

## 15 . Regulatory information

### United States

**HCS Classification** : Irritating material  
Sensitizing material  
Target organ effects

**U.S. Federal regulations** : TSCA 8(b) inventory: water; sodium chloride; sodium hydroxide; boric acid; neomycin sulfate  
SARA 302/304/311/312 extremely hazardous substances: No products were found.  
SARA 302/304 emergency planning and notification: No products were found.  
SARA 302/304/311/312 hazardous chemicals: sodium chloride; sodium hydroxide; boric acid  
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: sodium chloride: Immediate (acute) health hazard, Delayed (chronic) health hazard; sodium hydroxide: Immediate (acute) health hazard; boric acid: Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: sodium hydroxide

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

**State regulations** : Pennsylvania RTK Hazardous Substances: sodium hydroxide: (environmental hazard, generic environmental hazard)  
Massachusetts Substances: sodium hydroxide  
New Jersey: sodium hydroxide

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>	<u>No significant risk level</u>	<u>Maximum acceptable dosage level</u>
neomycin sulfate	No.	Yes.	No.	No.

**United States inventory (TSCA 8b)** : **United States inventory (TSCA 8b):** Not determined.

### Canada

**WHMIS (Canada)** : Not a WHMIS controlled material.

**Canadian lists** : CEPA DSL: water; sodium chloride; sodium hydroxide; boric acid

**Canada inventory** : **Canada inventory:** All components are listed or exempted.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

## 15 . Regulatory information

## 16 . Other information

**Label requirements** : CAUSES SEVERE EYE AND SKIN IRRITATION.  
CAUSES RESPIRATORY TRACT IRRITATION.  
MAY CAUSE ALLERGIC SKIN REACTION.  
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:  
KIDNEYS, LUNGS, NERVOUS SYSTEM, GASTROINTESTINAL TRACT,  
RESPIRATORY TRACT, SKIN, EYE, LENS OR CORNEA.

The customer is responsible for determining the PPE code for this material.

### EU regulations

**Hazard symbol or symbols** :



**Risk phrases** : R36/38- Irritating to eyes and skin.  
R43- May cause sensitization by skin contact.

**Safety phrases** : S24- Avoid contact with skin.  
S37/39- Wear suitable gloves and eye/face protection.

### International regulations

**International lists** : **Australia inventory (AICS)**: Not determined.  
**China inventory (IECSC)**: All components are listed or exempted.  
**Korea inventory (KECI)**: All components are listed or exempted.  
**Philippines inventory (PICCS)**: All components are listed or exempted.  
**Japan inventory (ENCS)**: Not determined.

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**Date of issue** : 8/29/2007.

**Version** : 1.03

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.