

IBCT/TIBC Flex® reagent cartridge

MSDS no. DEDM0026

Section 1. Chemical product and company identification

- Product Trade Name** : IBCT/TIBC Flex® reagent cartridge
- Product code** : DF84 K3084
- Synonyms** : Iron Binding Capacity , Total Flex® reagent cartridge
Dimension® clinical chemistry system Flex® reagent cartridge IBCT
Dimension Vista™ System Flex® reagent cartridge TIBC
- 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
- In Case of Emergency** : Transportation: (800) 424-9300 (CHEMTREC)
Medical: (800) 228-5635 ext. 284 (Prosar)
- Material uses** : Diagnostic agents.

Section 2. Hazards identification

- Physical state** : Liquid and solid
- Emergency overview** : Danger!
- CAUSES EYE AND SKIN BURNS.
HARMFUL IF SWALLOWED.
MAY CAUSE ALLERGIC SKIN REACTION.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:
BLOOD, KIDNEYS, NERVOUS SYSTEM, LIVER, HEART, BLADDER, RESPIRATORY
TRACT, SKIN, EYE, LENS OR CORNEA, TEETH.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN.
POSSIBLE CANCER HAZARD

Potential acute health effects

Routes of entry

- Eyes** : Corrosive to eyes.
- Skin** : Corrosive to the skin. May cause sensitization by skin contact.
- Inhalation** : Severely irritating to the respiratory system.
- Ingestion** : Toxic if swallowed. May cause burns to mouth, throat and stomach.
- Carcinogenic effects** : Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.
- Mutagenic effects** : No known significant effects or critical hazards.
- Reproduction toxicity** : No known significant effects or critical hazards.

See toxicological information (section 11)

Section 3. Composition, Information on Ingredients

Name	CAS number	% by weight
l-ascorbic acid	50-81-7	95
1,3-propanediol, 2-amino-2-(hydroxymethyl)-	77-86-1	17
1,3-propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride	1185-53-1	14
acetic acid, sodium salt	127-09-3	14
acetic acid	64-19-7	11
poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-thiourea	25322-68-3	5
	62-56-6	<2
neomycin sulfate	1405-10-3	<0.01
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

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 immediately.
- Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms appear.
- Ingestion** : Get medical attention immediately. 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. Chemical burns must be treated promptly by a physician.

Section 5. Fire fighting measures

- Flammability of the product** : Non-flammable.
- Fire hazards in the presence of various substances** : Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and oxidizing materials.
Non-flammable in the presence of the following materials or conditions: heat.
- Explosion hazards in the presence of various substances** : Explosive in the presence of the following materials or conditions: oxidizing materials.
- Fire-fighting media and instructions** : In case of fire, use water spray (fog), foam or dry chemical.
- 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.

Section 6. Accidental release measures

- Personal precautions** : 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.
- Methods for cleaning up** : Absorb with an inert material and place in an appropriate waste disposal container.

Section 7. Handling and storage

- Handling** : Do not ingest. Do not get in eyes or on skin or 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.

Section 8. Exposure controls, personal protection

- Engineering controls** : Good general ventilation should be sufficient to control airborne levels.
- Personal protection**
- Eyes** : Safety glasses.
- Skin** : Additional body garments should be used to avoid exposed skin surfaces (e.g. sleevelets, apron, disposable suit etc.), based on the task being performed.
- Respiratory** : A respirator is not needed under normal and intended conditions of product use.
- Hands** : Chemical-resistant gloves.

Product name

acetic acid

Exposure limits

OSHA PEL (United States, 8/1997).

TWA: 25 mg/m³ 8 hour/hours. Form: All forms

TWA: 10 ppm 8 hour/hours. Form: All forms

ACGIH TLV (United States, 1/2005).

STEL: 37 mg/m³ 15 minute/minutes. Form: All forms

STEL: 15 ppm 15 minute/minutes. Form: All forms

TWA: 25 mg/m³ 8 hour/hours. Form: All forms

TWA: 10 ppm 8 hour/hours. Form: All forms

poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-

AIHA WEEL (United States, 1/2005).

TWA: 10 mg/m³ 8 hour/hours. Form: Aerosol

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

- Physical state** : Liquid and solid
- pH** : Acidic.
- Critical temperature** : The lowest known value is 321.6°C (610.9°F) (acetic acid).
- Specific gravity** : Weighted average: 1.24 (Water = 1)
- Vapor pressure** : The highest known value is 2.4 kPa (18 mm Hg) (at 20°C) (water). Weighted average: 2.31 kPa (17.33 mm Hg) (at 20°C)
- Vapor density** : The highest known value is 2.1 (Air = 1) (acetic acid).
- Odor threshold** : The lowest known value is 0.21 ppm (acetic acid)
- Evaporation rate** : 1.34 (acetic acid) compared with Butyl acetate.
- Viscosity** : Dynamic: The highest known value is 1.22 cP (acetic acid)
- Ionicity (in water)** : Amphoteric. (water).

Section 10. Stability and reactivity

- Stability and reactivity** : The product is stable.
- Incompatibility with various substances** : Highly reactive or incompatible with the following materials: metals and alkalis.
Slightly reactive or incompatible with the following materials: moisture.
- Hazardous decomposition products** : These products are halogenated compounds, hydrogen chloride.
- Hazardous polymerization** : Will not occur.

Section 11. Toxicological information

Toxicity data

Ingredient name	Test	Result	Route	Species
l-ascorbic acid	LD50	11900 mg/kg	Oral	Rat
	LD50	3367 mg/kg	Oral	Mouse
1,3-propanediol, 2-amino-2-(hydroxymethyl)-acetic acid, sodium salt	LD50	5900 mg/kg	Oral	Rat
	LDLo	1000 mg/kg	Oral	Rabbit
	LD50	3530 mg/kg	Oral	Rat
	LD50	6891 mg/kg	Oral	Mouse
acetic acid	LD50	3310 mg/kg	Oral	Rat
	LD50	1100 mg/kg	Dermal	Rabbit
	LDLo	600 mg/kg	Oral	Rabbit
	LDLo	600 mg/kg	Oral	Rabbit
	LC50	5620 ppm (1 hour/hours)	Inhalation	Mouse
	LC50	5000 ppm (1 hour/hours)	Inhalation	Guinea pig
poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-	LD50	600 mg/kg	Oral	Rat
	LD50	1054 mg/kg	Oral	Rat
	LD50	27500 mg/kg	Oral	Rat
	LD50	>20000 mg/kg	Dermal	Rabbit
thiourea	LD50	125 mg/kg	Oral	Rat
	LDLo	6985 mg/kg	Oral	Rabbit
	LDLo	1000 mg/kg	Oral	Mammal
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	2500 mg/kg	Oral	Rat

Chronic Effects

CARCINOGENIC EFFECTS: Classified 3 (Possible for humans.) by European Union [Thiourea].

MUTAGENIC EFFECTS: Mutagenic in mammalian germ and somatic cells. [l-ascorbic acid]. Mutagenic for bacteria and/or yeast. [l-ascorbic acid]. Mutagenic in mammalian germ and somatic cells. [thiourea]. Mutagenic for bacteria and/or yeast. [thiourea].

Contains material which causes damage to the following organs: blood, kidneys, the nervous system, liver, heart, bladder, upper respiratory tract, skin, , , eye, lens or cornea, teeth.

Section 12. Ecological information

Ecotoxicity data

Ingredient name	Species	Period	Result
acetic acid, sodium salt	Bluegill. (LC50)	24 hour/hours	5000 ppm
	Daphnia magna (EC50)	48 hour/hours	65 mg/l
acetic acid	Lepomis macrochirus (LC50)	96 hour/hours	75 mg/l
	Pimephales promelas (LC50)	96 hour/hours	79 mg/l
	Pimephales promelas (LC50)	96 hour/hours	88 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	>20000 mg/l
poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-			
mixture of: 5-chloro-2-methyl-	Daphnia (LC50)	48 hour/hours	0.16 mg/l

IBCT/TIBC Flex® reagent cartridge

4-isothiazolin-3-one [ec no. 247-500-7]
 and 2-methyl-2h-isothiazol-3-one [ec
 no. 220-239-6] (3:1)

Products of degradation : These products are carbon oxides (CO, CO₂) and water, nitrogen oxides (NO, NO₂ etc.), sulfur oxides (SO₂, SO₃ etc.), halogenated compounds. Some metallic oxides.

Toxicity of the products of biodegradation : The products of degradation are as toxic as the product itself.

Section 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.

Consult your local or regional authorities.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	Not regulated.	-	-	-		- No additional remark.
IATA-DGR Class	Not regulated.	-	-	-		-

Section 15. Regulatory informationUnited States

HCS Classification : Toxic material
 Corrosive material
 Sensitizing material
 Carcinogen
 Target organ effects

U.S. Federal regulations : 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: l-ascorbic acid; acetic acid, sodium salt; acetic acid; thiourea
 SARA 311/312 MSDS distribution - chemical inventory - hazard identification: l-ascorbic acid: Delayed (chronic) health hazard; acetic acid, sodium salt: Immediate (acute) health hazard; acetic acid: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; thiourea: Immediate (acute) health hazard, Delayed (chronic) health hazard
 Clean Water Act (CWA) 307: No products were found.
 Clean Water Act (CWA) 311: acetic acid
 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: acetic acid, sodium salt

SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
Form R - Reporting requirements	: thiourea	62-56-6	1.43
Supplier notification	thiourea	62-56-6	1.43

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations : Pennsylvania RTK: acetic acid: (environmental hazard, generic environmental hazard); thiourea: (special hazard, environmental hazard, generic environmental hazard)
Florida: acetic acid
Minnesota: acetic acid; poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-; thiourea
Michigan critical material: thiourea
Massachusetts RTK: acetic acid; thiourea
Massachusetts spill list: thiourea
New Jersey: acetic acid; thiourea

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

<u>P65 Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>	<u>No significant risk level</u>	<u>Max acceptable dosage</u>
thiourea	Yes.	No.	0.01 µg/day (ingestion)	No.
neomycin sulfate	No.	Yes.	No.	No.

Canada

WHMIS (Canada) : Not a WHMIS controlled material.
CEPA DSL: water; l-ascorbic acid; 1,3-propanediol, 2-amino-2-(hydroxymethyl)-; 1,3-propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride; acetic acid, sodium salt; acetic acid; poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-; thiourea
Canadian NPRI: thiourea
Canadian ARET: thiourea

Section 16. Other information

Label requirements



Harmful
R40- Limited evidence of a carcinogenic effect.
R36/38- Irritating to eyes and skin.
R43- May cause sensitization by skin contact.
S36/37- Wear suitable protective clothing and gloves.

Date of printing : 10/23/2006.

Date of issue : 10/23/2006.

Version : 1.07

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.