

GExFRAME

**A Web-Based Framework for
Accessing Global Consumer Exposure
Data, Scenarios, and Models**

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April 2009

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What is GExFRAME?

- Web-based scientific data/model management framework
- Houses global databases and modeling tools for assessing exposures to consumer products
- User-friendly and transparent framework allows users to conduct both lower tier screening level assessments and higher tier probabilistic Monte Carlo assessments
- Results of the assessments will be summarized in reports compatible with the requirements of REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals)

GExFRAME - Features

- GExFRAME can be used to work with exposure related 1) databases and 2) models
- The software tool is set up to add additional information relatively easily
- New databases and models are being added continuously
- Data can be imported and simple algebraic models can be added by users

GExFRAME - Use

- GExFRAME is be used to house data and models related to human exposure to chemicals and pesticides, particularly consumer products
- Data and models accommodate multiple exposure routes
 - dermal
 - ingestion – food
 - ingestion – drinking water
 - ingestion – incidental hand-to-mouth
 - Ingestion – incidental object-to-mouth
 - inhalation

GExFRAME – Implementation

- Database Categories
 - Food/Drinking water consumption profiles
 - Consumer product characterizations; product use profiles
 - Human activity patterns
 - Product use locations (house characterizations)
 - Human factors
- Model Categories
 - Indoor air dispersion
 - Dermal exposure
 - Food/Drinking water exposure
 - Child Hand/Object-to-Mouth exposure
 - Exposure aggregation and cumulation

GExFRAME – Models included

- Algorithms based on
 - RIVM's ConsExpo
 - EPA's (OPP) Residential SOPs
 - CARES (Cumulative and Aggregate Risk Evaluation System)
 - EPA's (OPP) Residential SOPs
 - EPA's MCCEM (Multiple Chamber Consumer Exposure Model)

GExFRAME – Model Outputs

- Exposure Profiles
- By Time: Minute, Day, Year
- By Exposure Pathway: Dermal, Inhalation, Oral (in the case of aggregation)
- By Chemical (in the case of cumulation)
- By Gender & Age

GExFRAME - Structure

- Based on experiences with
 - THERdbASE (EPA-sponsored front-end data/model management system; worked in Windows 3.1)
 - Notitia (infoscientific-developed front-end scientific data/model management system; worked in Windows XP)
 - CARES (industry-sponsored project that added data and models to Notitia)
- The object-oriented concepts developed in these tools were applied to GExFRAME
- Mostly a server-side application

G E X F R A M E

The screenshot shows the GExFRAME web application running in Internet Explorer. The browser window title is "GExFrame Main Window - Windows Internet Explorer". The address bar shows the URL "http://139.191.1.176/gexMain.aspx?sUser=Stelios". The page header includes logos for the Institute for Health and Consumer Protection (ihp), the Joint Research Centre, and the European Commission Directorate-General Joint Research Centre.

The main content area is titled "GExFRAME" and includes a welcome message: "WELCOME, STELIOS" with links for "Help" and "Logout".

On the left side, there is a navigation menu with the following items: Home, Introduction, Data, Models, Scenarios, and FrameWork. Below the menu is a "Log In" section with fields for "User Name:" and "Password:", a "Remember me next time." checkbox, and a "Log In" button. At the bottom of the menu area are links for "REGISTER", "PASSWORD HINT?", and "CHANGE PASSWORD".

The main content area displays a tree view of data and models:

- Data
 - Food Consumption (US)
 - CHAD (EPA)
 - Reference Population (US)
 - Ventilation rates measured in homes, the Netherlands (EU)
 - Floor space of dwellings by number of rooms (EU)
 - Ventilation rates, homes, CONSEXPO default values, Netherlands (EU)
 - Food Availability - DAFNE Study (EU)
 - Use table
- Models
 - 2-Box Air Dispersion
 - Dermal - Consumer Exposure
 - Ingestion - Consumer Exposure
 - Custom Model Builder
 - Inhalation - Consumer Exposure
 - N-Box Air Dispersion
 - 1-Box Air Dispersion
- Scenarios
 - Pre-Built Scenarios
 - Custom Scenarios

The status bar at the bottom of the browser window shows "Internet | Protected Mode: On" and "100%".

CHAD - Demographics

D
A
T
A

Demographics - Windows Internet Explorer

http://139.191.1.176/test2.aspx?gStr=754baaec-d753-43c7-8f1b-221c3c5ea540&sUser=thanos&nStartRow=1&nMaxRows=40&title=Demograph

Demographics

First Prev Next Last 1 Goto Page Page 1 of 575 (Total records: 22968)

Display Extended Description

Query Graph Graph% Refresh Decode Export

CHAD ID	Study Code	State	County	ZipCode	Gender	Age	Race	Year	Month	Date	Day of Week	No of C
BAL97001A	01	24	24005	21204	2	77	2	1997	1	21	3	
BAL97001B	01	24	24005	21204	2	77	2	1997	1	22	4	
BAL97001C	01	24	24005	21204	2	77	2	1997	1	23	5	
BAL97001D	01	24	24005	21204	2	77	2	1997	1	24	6	
BAL97001E	01	24	24005	21204	2	77	2	1997	1	28	3	
BAL97001F	01	24	24005	21204	2	77	2	1997	1	29	4	
BAL97001G	01	24	24005	21204	2	77	2	1997	1	30	5	
BAL97001H	01	24	24005	21204	2	77	2	1997	1	31	6	
BAL97001I	01	24	24005	21204	2	77	2	1997	2	4	3	
BAL97001J	01	24	24005	21204	2	77	2	1997	2	5	4	
BAL97001K	01	24	24005	21204	2	77	2	1997	2	6	5	
BAL97001L	01	24	24005	21204	2	77	2	1997	2	7	6	
BAL97006A	01	24	24005	21204	1	80	2	1997	1	22	4	
BAL97006B	01	24	24005	21204	1	80	2	1997	1	23	5	
BAL97006C	01	24	24005	21204	1	80	2	1997	1	24	6	
BAL97006D	01	24	24005	21204	1	80	2	1997	1	28	3	
BAL97006E	01	24	24005	21204	1	80	2	1997	1	29	4	

Done Internet | Protected Mode: On 100%

CHAD – Activity Patterns

D
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T
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Activity Patterns - Windows Internet Explorer

http://139.191.1.176/test2.aspx?gStr=32b7e31a-e35d-411a-b077-7cb899e36dee&sUser=thanos&nStartRow=1&nMaxRows=40&title=Activity+Pa

Activity Patterns

First Prev Next Last 1 Goto Page Page 1 of 11130 (Total records: 445172)

Display Extended Description

Query Graph Graph% Refresh Decode Export

CHAD ID	Activity Number	Starting Time	Ending Time	Duration (minutes)	Location (Old)	Location
BAL98050Q	9	1515	1745	150	30122	1
BAL98050Q	10	1745	1900	75	30123	1
BAL98050Q	11	1900	2330	270	30122	1
BAL98050Q	12	2330	0	30	30125	1
BAL98050R	1	0	815	495	30125	1
BAL98050R	2	815	830	15	30130	3
BAL98050R	3	830	1045	135	30122	1
BAL98050R	4	1045	1200	75	30130	3
BAL98050R	5	1200	1215	15	30120	1
BAL98050R	6	1215	1415	120	30122	1
BAL98050R	7	1415	1545	90	30100	1
BAL98050R	8	1545	1730	105	30122	1
BAL98050R	9	1730	1900	90	30123	1
BAL98050R	10	1900	1915	15	30122	1
BAL98050R	11	1915	2215	180	30100	1
BAL98050R	12	2215	2330	75	30122	1
BAL98050R	13	2330	0	30	30125	1
BAL98050S	1	0	800	480	30125	1

Done Internet | Protected Mode: On 100%

CHAD – Activity Patterns Decode Feature

D
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Activity Patterns - Windows Internet Explorer

http://139.191.1.176/test2.aspx?gStr=32b7e31a-e35d-411a-b077-7cb899e36dee&idUser=thanos&nStartRow=1&nMaxRows=40&title=Activity+Patterns

Activity Patterns

First Prev Next Last 1 Goto Page Page 1 of 11130 (Total records: 445172)

Display Extended Description

Query Graph Graph% Refresh Decode Export

CHAD ID	Activity Number	Starting Time	Ending Time	Duration (minutes)	Location (Old)	Location (New)
BAL98050Q	9	1515	1745	150	Living room / family room	House - Indoor
BAL98050Q	10	1745	1900	75	Dining room	House - Indoor
BAL98050Q	11	1900	2330	270	Living room / family room	House - Indoor
BAL98050Q	12	2330	0	30	Bedroom	House - Indoor
BAL98050R	1	0	815	495	Bedroom	House - Indoor
BAL98050R	2	815	830	15	Other's residence, indoor	Other
BAL98050R	3	830	1045	135	Living room / family room	House - Indoor
BAL98050R	4	1045	1200	75	Other's residence, indoor	Other
BAL98050R	5	1200	1215	15	Your residence, indoor	House - Indoor
BAL98050R	6	1215	1415	120	Living room / family room	House - Indoor
BAL98050R	7	1415	1545	90	Residence, indoor	House - Indoor
BAL98050R	8	1545	1730	105	Living room / family room	House - Indoor
BAL98050R	9	1730	1900	90	Dining room	House - Indoor
BAL98050R	10	1900	1915	15	Living room / family room	House - Indoor
BAL98050R	11	1915	2215	180	Residence, indoor	House - Indoor
BAL98050R	12	2215	2330	75	Living room / family room	House - Indoor
BAL98050R	13	2330	0	30	Bedroom	House - Indoor
BAL98050S	1	0	800	480	Bedroom	House - Indoor
BAL98050S	2	800	815	15	Other's residence, indoor	Other
BAL98050S	3	815	1345	330	Living room / family room	House - Indoor
BAL98050S	4	1345	1430	45	Residence, indoor	House - Indoor
BAL98050S	5	1430	1600	90	Living room / family room	House - Indoor

Done Internet | Protected Mode: On 100%

CHAD – Activity Patterns Query Feature

DATA

The screenshot displays two overlapping windows from an Internet Explorer browser. The background window, titled 'Activity Patterns', shows a table of activity data. The foreground window, titled 'Query Manager', provides a graphical interface for constructing database queries.

Activity Patterns Table:

CHAD ID	Activity Number	Starting Time	Ending Time	Duration (minutes)	Location (Old)	Location (New)	Activity Description
BAL98050Q	9	1750	1900	150	Living room / family room	House - Indoor	Heavy Breathing?
BAL98050Q	10	1900	1915	15	Living room / family room	House - Indoor	
BAL98050Q	11	1915	2215	180	Residence, indoor	House - Indoor	
BAL98050Q	12	2215	2330	75	Living room / family room	House - Indoor	
BAL98050R	1	2330	0	30	Bedroom	House - Indoor	
BAL98050R	2	0	800	480	Bedroom	House - Indoor	
BAL98050R	3	800	815	15	Other's residence, indoor	Other	
BAL98050R	4	815	1345	330	Living room / family room	House - Indoor	
BAL98050R	5	1345	1430	45	Residence, indoor	House - Indoor	
BAL98050R	6	1430	1600	90	Living room / family room	House - Indoor	

Query Manager Interface:

- Field List:** CHAD ID, Activity Number, Starting Time, Ending Time, Duration (minutes), Location (Old), Location (New), Activity, QFACTLOC, Activity Description, Heavy Breathing?
- Operators:** And, Or, Not, Btw, =, <, >, ()'s, <>, <=, >=, Like
- Options:** SubQuery, Available Codes
- Buttons:** Done, Query, Clear, Undo

N-Box Air Dispersion

Case Study

Product:	Indoor Air Freshener
Number of Products:	2 (1 in Living Room, 1 in Kitchen)
Exposure:	Inhalation
Method:	N-Box Air Dispersion Model
Tier:	Higher Tier Model

INPUTS

Source Rate of Chemical:	1.5 mg/min (Living Room) 2.0 mg/min (Kitchen)
--------------------------	--

N-Box Air Dispersion - Windows Internet Explorer

http://139.191.1.176/frmModelRunner.aspx?gStr=151ec86b-1334-48db-9820-55192efc92d6

N-Box Air Dispersion

input output all ?

N-Box Air Dispersion

Project Selector Output

Open
Save
Delete
Clear

Projects:

Project: Three Rooms Two Sources

Name: Stelios

Comments: Living room, Kitchen, Other; One source in living room and another source in kitchen.

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Done Internet | Protected Mode: On 100%

N-Box Air Dispersion



N-Box Air Dispersion

Project

Selector

Output

Room	Exponential Source	Paint Source	Spill Source
<input checked="" type="checkbox"/> Living Room	1	0	0
<input type="checkbox"/> Bedroom	0	0	0
<input type="checkbox"/> Bathroom	0	0	0
<input checked="" type="checkbox"/> Kitchen	1	0	0
<input type="checkbox"/> Other Room	0	0	0
Rest of House	0	0	0

Validate

N-Box Air Dispersion - Windows Internet Explorer

http://139.191.1.176/frmModelRunner.aspx?gStr=151ec86b-1334-48db-9820-55192efc92d6

N-Box Air Dispersion

input output all ?

N-Box Air Dispersion

Project Selector Source Room Other Output

Living Room-Exponential Source-1

Name	Current Unit	Distribution Type	Distribution Values
Start/Stop Time	min	RangeInt	1 to 60
1st-Order Constant	mg/min	Constant	1.5
1st-Order Decay Constant	1/min	Constant	0
2nd-Order Constant	mg/min	Constant	0
2nd-Order Decay Constant	1/min	Constant	0
3rd-Order Constant	mg/min	Constant	0
3rd-Order Decay Constant	1/min	Constant	0
Source ID		Constant	1

Done Internet | Protected Mode: On 100%

N-Box Air Dispersion - Windows Internet Explorer

http://139.191.1.176/frmModelRunner.aspx?gStr=151ec86b-1334-48db-9820-55192efc92d6

N-Box Air Dispersion

input output all ?

N-Box Air Dispersion

Project Selector Source Room Other Output

Living Room

Update Settings

Name	Current Unit	Distribution Type	Distribution Values
Initial Concentration (Living Room)	mg/cm ³	Constant	0
Volume (Living Room)	m ³	Constant	50
Air Flow Rate (Living Room -> Outdoor)	m ³ /min	Constant	0.3
Air Flow Rate (Living Room -> Kitchen)	m ³ /min	Constant	0.3
Start/Stop Time	min	RangeInt	1 to 120

Done Internet | Protected Mode: On 100%

N-Box Air Dispersion - Windows Internet Explorer

http://139.191.1.176/frmModelRunner.aspx?gStr=151ec86b-1334-48db-9820-55192efc92d6

N-Box Air Dispersion

input output all ?

N-Box Air Dispersion

Project Selector Source Room Other Output

Options

Parameter	Unit	Distribution	Value
Outdoor Concentration	mg/cm ³	Constant	0
Inhalation Rate	m ³ /min	Constant	0.008
Body Weight	kg	Constant	70
Simulation Period		Constant	1440
Number of Simulations		Constant	1
Absolute Tolerance	mg/m ³	Constant	1E-05
Relative Tolerance		Constant	1E-05
Sink Rate	1/min	Constant	0.000001

Done Internet | Protected Mode: On 100%

N-Box Air Dispersion



N-Box Air Dispersion

Project

Selector

Source

Room

Other

Output

Toxicology ▾

Parameter	Unit	Distribution	Values	Help
NOEL (Inhalation)	mg/kg/da ▾	Constant ▾	10	
Uncertainty Factor (Inhalation)		Constant ▾	100	

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N-Box Air Dispersion



N-Box Air Dispersion

Project

Selector

Source

Room

Other

Output

Concentration profiles	12/15/08 5:08:15 PM	ⓘ
Source profile	12/15/08 5:08:15 PM	ⓘ
Concentration summary	12/15/08 5:08:15 PM	ⓘ
MOE summary	12/15/08 5:08:15 PM	ⓘ



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Concentration profiles - Windows Internet Explorer

http://139.191.1.176/test2.aspx?gStr=9b5ada47-ee3f-4db1-b4da-9c7e3e98bd22&sUser=Stelios&nStartRow=1&nMaxRows=40&title=Concentration profiles

Concentration profiles

First Prev Next Last 1 Goto Page Page 1 of 36 (Total records: 1440)

Display Extended Description

Query Graph Graph% Refresh Decode Export

Simulation Number	Time (min)	Concentration Rest of House (mg/cm ³)	Concentration Zone 2 (mg/cm ³)	Concentration Zone 3 (mg/cm ³)
1	1	1.493E-05	2.973E-02	8.896E-05
1	2	5.932E-05	5.893E-02	2.643E-04
1	3	1.326E-04	8.762E-02	4.368E-04
1	4	2.34E-04	1.158E-01	6.063E-04
1	5	3.632E-04	1.435E-01	7.73E-04
1	6	5.194E-04	1.706E-01	9.369E-04
1	7	7.022E-04	1.973E-01	1.098E-03
1	8	9.108E-04	2.235E-01	1.257E-03
1	9	1.145E-03	2.493E-01	1.412E-03
1	10	1.404E-03	2.746E-01	1.566E-03
1	11	1.687E-03	2.994E-01	1.716E-03
1	12	1.994E-03	3.239E-01	1.865E-03
1	13	2.325E-03	3.478E-01	2.01E-03
1	14	2.678E-03	3.714E-01	2.154E-03
1	15	3.053E-03	3.945E-01	2.295E-03
1	16	3.451E-03	4.172E-01	2.433E-03
1	17	3.869E-03	4.395E-01	2.569E-03
1	18	4.309E-03	4.615E-01	2.704E-03
1	19	4.769E-03	4.83E-01	2.835E-03
1	20	5.249E-03	5.042E-01	2.965E-03
1	21	5.749E-03	5.249E-01	3.093E-03
1	22	6.268E-03	5.453E-01	3.218E-03
1	23	6.805E-03	5.654E-01	3.342E-03
1	24	7.361E-03	5.851E-01	3.463E-03
1	25	7.934E-03	6.044E-01	3.583E-03
1	26	8.526E-03	6.235E-01	3.7E-03
1	27	9.134E-03	6.421E-01	3.816E-03

Done Internet | Protected Mode: On 100%

Inhalation Exposure Probabilistic

Case Study

Product: Indoor Air Freshener
Exposure: Inhalation
Method: Air Concentration (Specified)
Tier: Probabilistic

INPUTS

Concentration of AI in Air (mg/m^3): Discrete (0.01, 0.02, 0.035, 0.038)
Exposure Duration (hr/day): Triangular (2, 8, 24)
Inhalation Rate (m^3/hr): Uniform (0.4, 0.6)
Body Weight (kg): Normal (65, 10, 50, 100)
Number of Simulations: 100

Inhalation - Consumer Exposure (REx)

Inhalation - Consumer Exposure (REx)

Project

Selector

Settings

Other

Output

Open

Save

Delete

Clear

Report

Projects:



Project:

Case One

Name:

Thanos

Comments:

Indoor Air Freshener Product,
Inhalation Exposure

Inhalation - Consumer Exposure (REx)

Inhalation - Consumer Exposure (REx)

Project

Selector

Settings

Other

Output

During/Post	Model Name	Enable
During	Inhalation 101: Unit Exposure, Area Treated	<input type="checkbox"/>
During	Inhalation 102: Unit Exposure, Amount of Formulation Used	<input type="checkbox"/>
Post	Inhalation 103: Air Concentration, Specified	<input checked="" type="checkbox"/>
Post	Inhalation 104: Air Concentration, Calculated	<input type="checkbox"/>

Validate Rooms

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Inhalation - Consumer Exposure (REx)

Inhalation - Consumer Exposure (REx)

Project

Selector

Settings

Other

Output

Inhalation 103: Air Concentration, Specified ▾

Parameter	Unit	Distribution	Values
Exposure Duration	hr/day ▾	Triangular ▾	2, 8, 24
Inhalation Rate	m ³ /hr ▾	Uniform ▾	0.4, 0.6
Body Weight	kg ▾	Normal ▾	65, 10, 50, 100
Concentration of AI in Air	mg/m ³ ▾	Discrete ▾	0.01, 0.02, 0.035, 0.038
Decay		Constant ▾	0.1

Inhalation - Consumer Exposure (REx)

Inhalation - Consumer Exposure (REx)

Project

Selector

Settings

Other

Output


Parameter	Value
Number of Simulations	100


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Inhalation - Consumer Exposure (REx)


Inhalation - Consumer Exposure (REx)

 Project

 Selector

 Settings

 Other

 Output

[Inhalation Inputs \(08/18/08 6:23:33 PM\)](#)

[Inhalation Outputs \(08/18/08 6:23:33 PM\)](#)



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Inhalation Inputs (08/18/08 6:23:33 PM) - Windows Internet Explorer

http://gexframe.jrc.it/test2.aspx?gStr=53e39ec6-b530-44a3-ba05-1e26d03a0d5f&sUser=Thanos&nStartRow=1&nMaxRows=40&title=Inhalation Inputs (08/18/08 6:23:33 PM)

Inhalation Inputs (08/18/08 6:23:33 PM)

First Prev Next Last 1 Goto Page Page 1 of 3 (Total records: 100)

Display Extended Description

Save Query Graph Graph% Refresh Decode Export

OUTPUTS – Simulation Parameters Used

Simulation No	Assessment Method	Body Weight (kg)	Exposure Duration (sec/day)	Inhalation Rate (m ³ /sec)
1	inh103	56.117816706201516	40800	0.00015131030663237735
2	inh103	59.864882881924942	50889.569317837013	0.00012290131217335506
3	inh103	53.517732096381394	26253.927734404409	0.0001478084125672322
4	inh103	77.3265025130822	47048.41874188916	0.00013664264200775449
5	inh103	76.818113947508522	36747.018714191152	0.00011685824921451765
6	inh103	81.321495676802186	20502.951364485278	0.00015957658268555525
7	inh103	85.13228929830926	62270.97993468598	0.00015743299369934958
8	inh103	59.9822393140108	58864.035609413077	0.00016015120886362031
9	inh103	63.030368016331671	63269.404000671668	0.00014829532014400612
10	inh103	70.28442164857573	47559.753115203042	0.00012418151596126854
11	inh103	58.346068333583588	27261.739570734808	0.00014051134448874784
12	inh103	81.809346092208926	40056.262529739332	0.000157765063263826
13	inh103	69.44873647637624	59363.69828254103	0.00011598077945843487
14	inh103	55.355489445502087	19445.351996634898	0.00012006286099537076
15	inh103	84.191859028640465	23802.64793476259	0.00014868286506858862
16	inh103	59.188359300980871	47971.602654181661	0.00014881173313010491
17	inh103	81.042284916628134	48109.533995207326	0.00011659290099793846
18	inh103	59.13409516740662	20192.215535594656	0.00011841995528069846
19	inh103	50.222311828041256	22201.934174029451	0.00013583325165006038
20	inh103	59.854729401790379	36082.197678266646	0.0001410437009539841
21	inh103	51.23574649642061	40530.316975394766	0.00014205545495996153
22	inh103	82.86594020909763	41445.043074067784	0.00014688915937844421
23	inh103	52.231815358545745	46100.732534543327	0.00015772091729668851
24	inh103	62.682221573289127	59296.741260049064	0.00012622435573594979
25	inh103	53.71765735247687	28772.631451636349	0.00016204739558687293
26	inh103	79.3512200257346	66923.859278852469	0.00013275606469001847
27	inh103	61.666373538337744	33631.042443447011	0.00012418728734601314
28	inh103	61.344560723976386	27266.168355752379	0.00014437557920481394

Done Internet | Protected Mode: On 100%

Inhalation Outputs (08/18/08 6:23:33 PM) - Windows Internet Explorer

http://gexframe.jrc.it/test2.aspx?gStr=53d035b1-a9fb-433a-b4d2-b7134ba8ddfc&sUser=Thanos&nStartRow=1&nMaxRows=40&title=Inhalator

Inhalation Outputs (08/18/08 6:23:33 PM)

First Prev Next Last 1 Goto Page Page 1 of 3 (Total records: 100)

Display Extended Description

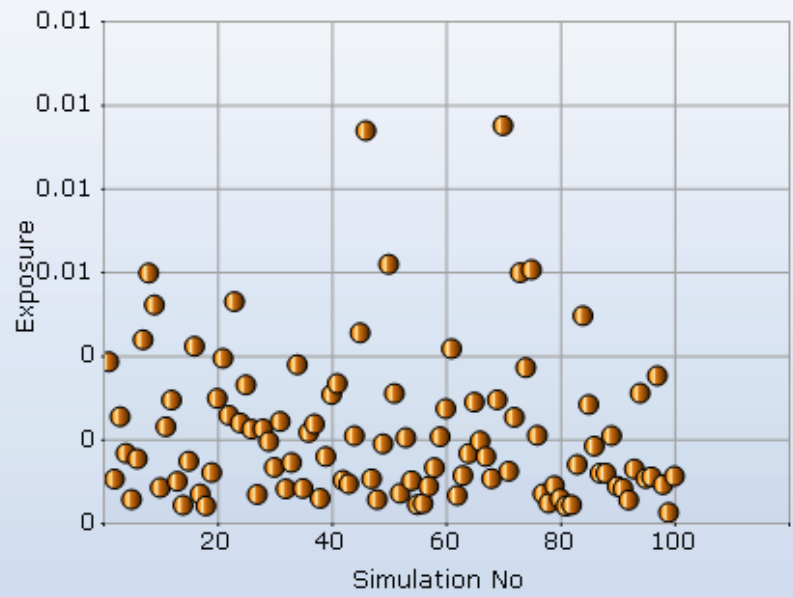
Save Query Graph Graph% Refresh Decode Export

Simulation No	Assessment Method	Exposure
1	inh103	0.0038503122636122994
2	inh103	0.0010447518718837206
3	inh103	0.0025378373307766446
4	inh103	0.0016627727959353264
5	inh103	0.0005590077717513096
6	inh103	0.0015288461394660324
7	inh103	0.00437593375152392
8	inh103	0.0059722939595386838
9	inh103	0.00521002000449869
10	inh103	0.0008403060169037131
11	inh103	0.00229784855493582
12	inh103	0.0029353638131976961
13	inh103	0.00099138563891460938
14	inh103	0.00042175845921776673
15	inh103	0.0014712420846823544
16	inh103	0.00422136733592094
17	inh103	0.00069213622739420924
18	inh103	0.00040436253467209519
19	inh103	0.0012009645920342481
20	inh103	0.0029758857194504555
21	inh103	0.00393308101074449
22	inh103	0.0025713093132921474

OUTPUTS – Exposure (mg/kg/day)

Done Internet | Protected Mode: On 100%

Simulation No vs. Exposure



Graph Manager

X/Y Plot Multi-Y Plot Bar/Pie Plot

X-Axis: Simulation No

Y-Axis: Exposure

Graph

Export

Custom Scenario Model

Custom Scenarios



Custom Scenarios

Project

Selector

Output

- Open
- Save
- Delete
- Clear

Projects:	New Project
Project:	Project Testing
Name:	Stelios
Comments:	Test creation of a new scenario.

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Window that allows creation of new exposure scenarios

Custom Scenarios - Windows Internet Explorer

http://139.191.1.176/frmModelRunner.aspx?gStr=8807dcd-bc13-4718-bbbb-abe280aa4aac

Custom Scenarios

input output all ?

Custom Scenarios

Project Selector Output

Scenarios

- US
 - Product Category 1
 - Indoor Surface Spray
 - Lawn Care
 - Indoor Space Spray
 - Product Category 2
 - Pet Care
 - Tree Care

Add Pre-built Scenario

Group

Default

Scenario

Scenario Name (Required)

Add New Scenario

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Trigger Spray Scenario is Created and Added

Custom Scenarios - Windows Internet Explorer
http://139.191.1.176/frmModelRunner.aspx?gStr=8807dcd-bc13-4718-bbbb-abe280aa4aac

Custom Scenarios

input output all ?

Custom Scenarios

Project Selector Output

Scenarios

- US
 - Product Category 1
 - Indoor Surface Spray
 - Lawn Care
 - Indoor Space Spray
 - Product Category 2
 - Pet Care
 - Tree Care

Add Pre-built Scenario

Group

Default

Scenario

Scenario Name (Required)

Add New Scenario

Enabled	Scenario	Group	During - Dermal	During - Inhalation	Post - Dermal	Post - Ingestion (HtoM)	Post - Inhalation	Delete
<input checked="" type="checkbox"/>	Trigger Spray	default						Delete

Internet | Protected Mode: On 100%

Appropriate Exposure Route Specific Algorithms are Selected

Custom Scenarios - Windows Internet Explorer
 http://139.191.1.176/frmModelRunner.aspx?gStr=8807dcd-bc13-4718-bbbb-abe280aa4aac

Custom Scenarios

Project Selector Output

Scenarios

- US
 - Product Category 1
 - Indoor Surface Spray
 - Lawn Care
 - Indoor Space Spray
 - Product Category 2
 - Pet Care
 - Tree Care

Add Pre-built Scenario Add New Scenario

Group: Default

Scenario: *Scenario Name (Required)*

Code Assessment Method				
Enabled	Scenario	Group	During - Dermal	
<input checked="" type="checkbox"/>	Trigger Spray	default	▼	▼
				Delete

Done Internet | Protected Mode: On 100%

Selected Exposure Route Specific Algorithms are Shown

Custom Scenarios - Windows Internet Explorer

http://139.191.1.176/frmModelRunner.aspx?gStr=8807dcd-bc13-4718-bbbb-abe280aa4aac

Custom Scenarios

input output all ?

Custom Scenarios

Project Selector Output

Scenarios

- US
 - Product Category 1
 - Indoor Surface Spray
 - Lawn Care
 - Indoor Space Spray
 - Product Category 2
 - Pet Care
 - Tree Care

Add Pre-built Scenario Add New Scenario

Group: Default

Scenario: *Scenario Name (Required)*

Enabled	Scenario	Group	During - Dermal	During - Inhalation	Post - Dermal	Post - Ingestion (HtoM)	Post - Inhalation	Delete
<input checked="" type="checkbox"/>	Trigger Spray	default	101	101			103	Delete

Done Internet | Protected Mode: On 100%

Input Parameters relevant to chosen Algorithms are Shown

Custom Scenarios - Windows Internet Explorer

http://139.191.1.176/frmModelRunner.aspx?gStr=8807dcd-bc13-4718-bbbb-abe280aa4aac

Custom Scenarios

input output all ?

Custom Scenarios

Project Selector Settings Other Output

TriggerSpray - Unit Exposure, Based on Area Treated

Parameter	Unit	Distribution	Values	Help
Area Treated	m ²	Normal	100,50,0,1000	i
Reference Duration	day	Constant	1	i
Body Weight	kg	Constant	70	i
Application (AI per Area Treated)	kg/m ²	Constant	0.000445	i
Unit Exposure (Dermal)	mg/kg	Constant	0.222	i

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Outputs from a Model Run with Selected Algorithms

Custom Scenarios - Windows Internet Explorer

http://139.191.1.176/frmModelRunner.aspx?gStr=8807dcd8-bc13-4718-bbbb-abe280aa4aac


Custom Scenarios

input output all i ?

Custom Scenarios

Project Selector Settings Other Output

MOE Percentiles (Pivot)	12/15/08 7:14:02 PM	?
Parameter Values	12/15/08 7:14:02 PM	?
Exposure Results	12/15/08 7:14:02 PM	?
MOE Summary Percentiles (TriggerSpray)	12/15/08 7:14:03 PM	?



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Exposure Results - Windows Internet Explorer

http://139.191.1.176/test2.aspx?gStr=4b369d10-86df-4ded-a0c5-700cf983b291&sUser=Stelios&nStartRow=1&nMaxRows=40&title=Exposure

Exposure Results

Page 1 of 1 (Total records: 15)

Display Extended Description

Simulation	Scenario	Route	Assessment Method	Exposure (mg/kg/day)	MOE (unitless)
1	TriggerSpray	1	der101	1.9E-04	52766
1	TriggerSpray	5	inh101	7.68E-07	100000
1	TriggerSpray	5	inh103	4.58E-03	2181
2	TriggerSpray	1	der101	1.74E-04	57612
2	TriggerSpray	5	inh101	7.04E-07	100000
2	TriggerSpray	5	inh103	5.27E-03	1896
3	TriggerSpray	1	der101	2.83E-05	100000
3	TriggerSpray	5	inh101	1.15E-07	100000
3	TriggerSpray	5	inh103	3.28E-03	3051
4	TriggerSpray	1	der101	1.44E-04	69342
4	TriggerSpray	5	inh101	5.85E-07	100000
4	TriggerSpray	5	inh103	4.06E-03	2461
5	TriggerSpray	1	der101	1.7E-04	58788
5	TriggerSpray	5	inh101	6.9E-07	100000
5	TriggerSpray	5	inh103	4.4E-03	2274

Done

Internet | Protected Mode: On

100%

MOE Summary Percentiles (TriggerSpray) - Windows Internet Explorer

http://139.191.1.176/test2.aspx?gStr=8c96b0e0-a797-4795-aef0-20cc1115b342&sUser=Stelios&nStartRow=1&nMaxRows=40&ti

MOE Summary Percentiles (TriggerSpray)

Page 1 of 1 (Total records: 16)

Display Extended Description

Percentile	TriggerSpray / der101	TriggerSpray / inh101	TriggerSpray / inh103
100.00	52766	100000	1896
99.90	52790	100000	1897
99.00	53008	100000	1910
98.00	53251	100000	1924
97.00	53493	100000	1939
96.00	53735	100000	1953
95.00	53978	100000	1967
94.00	54220	100000	1982
93.00	54462	100000	1996
92.00	54704	100000	2010
91.00	54947	100000	2024
90.00	55189	100000	2038
75.00	57906	100000	2204
50.00	64065	100000	2368
25.00	92336	100000	2904
00.00	100000	100000	3051

Done Internet | Protected Mode: On 100%

Why GExFRAME?

- 1) A web-based consumer modeling framework that provides global access
- 2) A framework that houses exposure related data and models
- 3) A framework that allows both screening level and higher tier assessments
- 4) Easy connectivity of assessment inputs and outputs with REACH-IT
- 5) Relatively easy expansion
- 6) Free use