

# Product Safety at Irutec

Irutec products prioritize human safety and the environment. We have a product safety team comprised of toxicology experts, public health, safety and environmental experts who oversee the review process for new and existing product ingredients and formulations.

## STEP 1

Irutec's research and development continually discovers and reviews new and existing materials and formulations. Sources include:

### IRUTEC RESEARCH + DEVELOPMENT REVIEWS

Scientific literature

National and international regulatory legislation developments and actions

Trade associations

Reports from NGOs, community interest groups

Irutec R&D (New product formulas)

### INITIAL INFORMATION COLLECTED ON INGREDIENTS / FORMULAS:

Ingredient names  
pH, color, odor, physical state, viscosity, flash point, other chemical characteristics

### FOR FORMULAS, CONSIDERATIONS ARE:

Purpose in formulation of every ingredient, % active in final formula, % weight in final formula, product form (spray, powder, wipe, etc.) and usage intent / sites

## STEP 2

Assessments initiated, data collection begins for two paths: Environmental and Human Safety.

### ENVIRONMENTAL ASSESSMENT INITIATED

- World-wide literature search
- Review of any existing data (internal, EPA, other governmental or NGO, manufacturer)

### GLOBAL REVIEW

Observe regulatory requirements of different countries

### HUMAN HEALTH ASSESSMENT INITIATED

- World-wide literature search
- Review of any existing data (internal, EPA, other governmental or NGO, manufacturer)

### ENVIRONMENTAL SCIENTISTS REVIEW OF EACH INGREDIENT + PRODUCT CATEGORY TO DETERMINE ECO IMPACT

Potential hazards identification + assessment

If concerns are identified, recommendation is to not formulate with this ingredient

### ASSESSMENT

PROCEED upon clearance of ingredient/formula

DO NOT FORMULATE

### TOXICOLOGISTS / PUBLIC HEALTH EXPERTS REVIEW AVAILABLE DATA FOR ACUTE AND CHRONIC HEALTH CONCERNS

Potential hazards identification + assessment

If concerns are identified, recommendation is to not formulate with this ingredient

### ASSESSMENT

PROCEED upon clearance of ingredient/formula

DO NOT FORMULATE

## STEP 3

If data indicates it is OK to proceed with considering an ingredient or formula, the next steps are comprehensive exposure and risk assessments.

### ENVIRONMENTAL EXPOSURE ASSESSMENT

- Potential pathways of exposure are identified, e.g. runoff, down the drain, indoor / outdoor use and concentration of ingredient(s) determined for each pathway
- Eco impact is estimated, including consideration of amount per use, duration of use, frequency of use, amount of each ingredient in finished product, indoor use vs. outdoor use

### DATA GENERATION + RISK ASSESSMENT

Ingredient/formula is determined to be acceptable and appropriate for use as a consumer product given environmental considerations

### ASSESSMENT

OK FOR FORMULATION

Risks for the environment are too high, and risks cannot be sufficiently mitigated

DO NOT FORMULATE

### HUMAN HEALTH EXPOSURE ASSESSMENT

- Potential pathways of exposure are identified, e.g. dermal, inhalation, etc.
- Exposure is estimated using exposure models, including consideration of amount per use, duration of use, frequency of use, amount of each chemical in finished product, etc.
- Intended use of the finished product is considered including compatibility or interaction with other products
- Review restrictions and scientific background of ingredient / formula in U.S., European Union, other countries, etc. Restrictions may result in a recommendation not to formulate.

### DATA GENERATION + RISK ASSESSMENT

Ingredient/formula is determined to be acceptable and appropriate for use as a consumer product

### ASSESSMENT

OK FOR FORMULATION

Risks for the human health are too high, and risks cannot be sufficiently mitigated

DO NOT FORMULATE