



Minnesota Toxic Free Kids Program – 2019

CHEMICALS OF HIGH CONCERN LIST UPDATE



Minnesota Toxic Free Kids Program – 2019 Update

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Abbreviations and Acronyms

Abbreviations and Acronyms	Phrase or Organization Name
CA Prop 65	California Proposition 65 List
CAS RN	Chemical Abstract Service Registry Number
CDR	Chemical Data Reporting (U.S. EPA rule)
CHC	Chemicals of High Concern List
Commerce	Minnesota Department of Commerce
CPIT	Chemicals in Products Interagency Team
ECHA	European Chemicals Agency
HPV	High Production Volume
IARC	International Agency for Research on Cancer
IC2	Interstate Chemicals Clearinghouse
MDH	Minnesota Department of Health
MN FEET	Minnesota Family Environmental Exposure Tracking
MN HRL	Minnesota Health Risk Limits
MPCA	Minnesota Pollution Control Agency
REACH	Registration, Evaluation, Authorisation, and Restriction of Chemicals
PBT	Persistent, Bioaccumulative, and Toxic
PC	Priority Chemical List
SVHC	Substances of Very High Concern List
TFK	Toxic Free Kids
TSCA	Toxic Substance Control Act
U.S. EPA	United States Environmental Protection Agency
vPvB	Very Persistent and Very Bioaccumulative
WA CHCC	Washington Department of Ecology Chemicals of High Concern to Children

Executive Summary

Through the Toxic Free Kids (TFK) program, the Minnesota Department of Health (MDH) is working to identify and communicate the potential for hazardous chemical exposures from consumer products that could be harmful to human health, particularly to vulnerable or susceptible populations such as children.

The TFK program began in 2009 after Minnesota passed legislation (Minnesota Statutes, sections 116.9401 to 116.9407) known as the Toxic Free Kids Act (Minnesota Statutes, 2018). The legislation directed MDH to create a Chemicals of High Concern (CHC) list and a Priority Chemicals (PC) list. These lists focused on hazardous chemicals that could be found in consumer products with particular concern for hazardous chemicals found in children's products. The first few years of the TFK program focused on creating and maintaining these two lists.

Since the last TFK program update report in 2016 (Minnesota Department of Health, 2016), the TFK program has increased its work on communication and education efforts not only with the public, but also with the business, government, and academic communities. While the statutory responsibility of maintaining the two chemical lists is still an important function of the TFK program, MDH recognized that more could be done to work with the communities and populations impacted by and concerned with hazardous chemicals in consumer products.

This report provides an update to both the 2019 CHC list (required every 3 years) and to the areas of partnership and outreach that the TFK program has been involved in over the past three years.

The CHC list is a hazard-based chemical list, as defined by the TFK statute, where MDH identifies chemicals that could be harmful to human or environmental health because they are known or suspected:

- carcinogens
- reproductive or developmental toxicants
- systemic toxicants
- endocrine disruptors
- persistent, bioaccumulative, and toxic (PBT) chemicals
- or are very persistent and very bioaccumulative (vPvB) chemicals (Minnesota Statutes, 2018).

The original CHC list was published in 2010 and MDH reviews the list every three years. This report describes the third review and update of the CHC list.

Updates to the CHC list since 2010 have included reviews of PBT chemical status, high production volume (HPV) chemical status, as well as the addition and removal of chemicals. Chemicals were added to or removed from the 2019 CHC list after reviewing statutorily named authoritative sources and after reviewing any relevant toxicological studies. The 2019 review also looked for statutorily exempted chemical uses when considering a chemical's removal from the CHC list. The United States Environmental Protection Agency's (U.S. EPA) Chemical Data Reporting (CDR) rule submissions were analyzed while reviewing the HPV status of chemicals on the 2019 CHC list (U.S. Environmental Protection Agency, 2019). The 2019 CHC list contains

1,747 chemicals and this review added 30 chemicals (Appendix A), removed 52 chemicals (Appendix B), and updated the HPV status of 429 chemicals on the list.

Since the last update report in 2016, the TFK program has participated in numerous partnerships. MDH remains a member of the Interstate Chemicals Clearinghouse (IC2), a national association of state, local, and tribal governments that promotes a clean environment, healthy communities, and a vital economy through the development and use of safer chemicals and products since the Toxic Free Kids Act was passed in 2009. In 2016 MDH helped establish the Chemicals in Products Interagency Team (CPIT) that works with other Minnesota State agencies to align work efforts relating to chemicals in consumer and commercial products. The most recent partnerships for the TFK program are with Hamline University and the University of Minnesota. The Hamline University partnership consisted of a semester long facilitated community outreach project with students that created educational material to be used by MDH. The University of Minnesota partnership was a lecture series on Minnesota state chemical policy efforts related to hazardous chemicals in consumer products. This lecture series is being considered again for upcoming school years.

The TFK program has engaged in multiple education and outreach initiatives in the past few years. MDH and the TFK program have led a session on chemical safety at the Cottage Grove Safety Camp for the past seven years. The session is for kids ages 8 to 11 and focuses on chemical labeling and safe chemical handling at home. In 2018, the TFK program participated in the HmongTown Festival, which drew 15,000 attendees over two days, to share information about mercury in skin lightening products. In 2019, the TFK program was invited to participate in Early Childhood Family Education Classes to talk about hazardous chemicals in consumer products.

The TFK program has also launched a digital newsletter and has expanded into social media platforms like Facebook, LinkedIn and Instagram. To sign up for the digital newsletter, visit the Toxic Free Kids – Announcements page and click “sign up for e-mail updates” ([Announcements https://www.health.state.mn.us/communities/environment/childenvhealth/tfka/announcements.html](https://www.health.state.mn.us/communities/environment/childenvhealth/tfka/announcements.html)). Educational materials are also available on the TFK program website and the TFK program is working to provide material for a range of audiences in new and creative formats. For example, upcoming efforts related to toxic chemicals in skin lightening products include contributing to a Hmong TV segment about beauty, consumer products, and health ([Education https://www.health.state.mn.us/communities/environment/childenvhealth/tfka/education](https://www.health.state.mn.us/communities/environment/childenvhealth/tfka/education)).

The updated 2019 CHC list, education and outreach materials, and this report are published on the MDH website at: [Toxic Free Kids: Chemicals of High Concern and Priority Chemicals \(www.health.state.mn.us/communities/environment/childenvhealth/tfka\)](https://www.health.state.mn.us/communities/environment/childenvhealth/tfka). Future materials, updates, and revisions will also be published on the MDH website. To receive notifications of MDH activity related to the TFK program you can also sign up for e-mail notices at the above web link.

2019 Chemicals of High Concern Update

This section of the report describes the 2019 update to the Chemicals of High Concern (CHC) list. Later sections describe Toxic Free Kids (TFK) program updates since 2016, focusing on partnership collaborations and the education/outreach work of the program.

Legislative Background

In 2009, Minnesota passed legislation related to concerns of hazardous chemicals being present in consumer products, especially products intended for children. This legislation, known as the Minnesota Toxic Free Kids Act, requires the Minnesota Department of Health (MDH), in consultation with the Minnesota Pollution Control Agency (MPCA), to create and maintain two chemical lists (Minnesota Statutes, 2018). The first list, called the Chemicals of High Concern (CHC), is a chemical hazard based list defined in Minnesota Statutes, section 116.9401, paragraph (e):

(e) “Chemical of high concern” means a chemical identified on the basis of credible scientific evidence by a state, federal, or international agency as being known or suspected with a high degree of probability to:

- (1) harm the normal development of a fetus or child or cause other developmental toxicity;
- (2) cause cancer, genetic damage, or reproductive harm;
- (3) disrupt the endocrine or hormone system;
- (4) damage the nervous system, immune system, or organs, or cause other systemic toxicity;
- (5) be persistent, bioaccumulative, and toxic; or
- (6) very persistent, and very bioaccumulative.

The statute establishes a schedule for updating the CHC list, and names potential sources to be used when evaluating chemicals for possible inclusion on the CHC list in Minnesota Statutes, section 116.9402, paragraphs (b) through (d):

(b) The department must periodically review and revise the list of chemicals of high concern at least every three years. The department may add chemicals to the list if the chemical meets one or more of the criteria in section 116.9401, paragraph (e).

(c) The department shall consider chemicals listed as a suspected carcinogen, reproductive or developmental toxicant, or as being persistent, bioaccumulative, and toxic, or very persistent and very bioaccumulative by a state, federal, or international agency. These agencies may include but are not limited to, the California Environmental Protection Agency, the Washington Department of Ecology, the United States Department of Health, the United States Environmental Protection Agency, the United

Nation’s World Health Organization, and European Parliament Annex XIV concerning the Registration, Evaluation, Authorization, and Restriction of Chemicals.

(d) The department may consider chemicals listed by another state as harmful to human health or the environment for possible inclusion in the list of chemicals of high concern.

MDH published the first CHC list in July of 2010 and the subsequent updates on MDH’s website at: [Toxic Free Kids Act, Chemicals of High Concern and Priority Chemicals www.health.state.mn.us/communities/environment/childenvhealth/tfka](http://www.health.state.mn.us/communities/environment/childenvhealth/tfka).

Previous Chemicals of High Concern Lists

Minnesota’s CHC list was created in 2010 and is updated every three years. Previous updates to the CHC list reviewed persistent, bioaccumulative, and toxic (PBT) properties of chemicals listed; the high production volume (HPV) status of chemicals listed; and reviewed authoritative sources and chemical data for additions to and removals from the CHC list. For detailed information on the 2013 and 2016 CHC list updates, visit the MDH website: [Toxic Free Kids Act, Reports www.health.state.mn.us/communities/environment/childenvhealth/tfka/reports](http://www.health.state.mn.us/communities/environment/childenvhealth/tfka/reports) (Minnesota Department of Health, 2013, 2016).

Chemicals Added or Removed

The 2019 CHC list update reviewed chemicals for addition to or removal from the list. As with previous updates to the CHC list, MDH reviewed new toxicological literature and updates to authoritative state, national, and international lists, particularly those authoritative sources named in Minnesota Statutes, section 116.9402.

When reviewing chemicals for potential addition or removal, MDH looked for chemicals added or delisted by authoritative sources since the previous CHC list update in 2016. Next, a rapid review of the 2016 list searching for statutorily exempted chemical use categories was performed. This process resulted in 30 chemicals added to and 52 chemicals removed from the 2019 CHC list. The 2019 CHC list contains 1,747 chemicals.

Number of chemicals on the Chemicals of High Concern list



MDH’s review of the following authoritative lists resulted in chemicals being added to the 2019 CHC list:

- International Agency for Research on Cancer (IARC) Monographs (World Health Organization, 2019)
- Minnesota Health Risk Limits, Human Health-Based Water Guidance Table (Minnesota Department of Health, 2019a)

- Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH), Substances of Very High Concern (European Chemicals Agency, 2019)
- Washington State Chemicals of High Concern to Children (Washington Department of Ecology, 2019)

MDH reviewed chemicals newly listed since 2016 by the sources named above and compared these chemicals to the 2016 CHC list. Chemicals found on the above named source lists, but not found on the 2016 CHC list were then further reviewed in an attempt to identify commercial or consumer uses/applications. Minnesota Statutes, section 116.9405, names specific use/applications that are exempt from being listed (Minnesota Statutes, 2018). If a chemical was exclusively used in an exempted category or if no known uses could be determined, it was not added to the 2019 CHC list. A detailed table of the chemicals added to the 2019 CHC list including their name, chemical abstract registry number (CAS RN), authoritative source, and health endpoint(s) reason for listing is in Appendix A.

Each previous update has included a rapid review of chemicals on the CHC list to determine if any chemicals should be removed. This review focused on searching the CHC list for exempt use/application categories as named in MN Statute 116.9405 as well as any removals of chemicals from three authoritative source lists (California Environmental Protection Agency, 2019; Maine Department of Environmental Protection, 2019; Washington Department of Ecology, 2019). Ultimately, the 2019 CHC list update removed 52 chemicals from the list. Thirty-nine of the removals were due to a determination that a chemical appeared to have sole exempted use in a combustible fuel or as a combustion by-product. The remaining chemicals were removed because of pharmaceutical use exemption or because of authoritative source list removal. Ten chemicals had both a use exemption and an authoritative source list removal. The chemicals removed due to a use exemption were done so for this reason only and were not reviewed for their hazardous properties. Removal from the 2019 CHC list should not be interpreted as a determination of safety. A detailed table of the chemicals removed from the 2019 CHC list including their name, CAS RN, and reason for removal is in Appendix B.

High Production Volume Chemicals

A requirement in Minnesota's statutory definition for a chemical listed on the Priority Chemical (PC) list, the list that builds off the CHC list, is that the chemical be a high production volume (HPV) chemical named by the U.S. Environmental Protection Agency (EPA) (Minnesota Statutes, 2018). The EPA defines an HPV chemical as a chemical that is manufactured or imported into the United States in quantities of one million pounds or more per year. Because the HPV status of a chemical on the CHC list affects the eligibility of a chemical for the PC list, HPV chemical status is reviewed and noted on the CHC list.

Under the U.S. Toxic Substances Control Act (TSCA), manufacturers or importers of a chemical in the quantity of 25,000 pounds or more per year must report to the EPA under the Chemical Data Reporting (CDR) Rule, which occurs on a four year cycle (U.S. Environmental Protection Agency, 2019). Until the most recent submission year, 2016, manufacturers only reported production volumes for the data year before the submission year, known in CDR as the principal reporting year (i.e. principal year 2011 data was submitted during the 2012 CDR submission year). Since submissions were due every four years, this resulted in production volume data

gaps in-between principal reporting years. Starting with the CDR 2016 submission year, manufacturers now report production volumes for each principal year between submission years. For example, only 2011 data was submitted in the 2012 submission year. However, the 2016 submission year reported data from each year since the 2012 submission year, which would be from data years 2012, 2013, 2014, and 2015 (U.S. Environmental Protection Agency, 2019).

Each EPA CDR Rule submission year results in thousands of chemicals reporting national production volumes of one million pounds or more. For the purpose of the CHC list, MDH has decided to focus on chemicals that are consistently being reported with national production volumes of one million pounds or more throughout multiple years of EPA CDR submissions (as opposed to those chemicals reporting one million pounds or more on the most recent data year only). This approach of classifying HPV chemicals for the CHC list is a proxy measurement of sustained U.S. population exposure potential. In other words, MDH is classifying CHC chemicals as HPV that have known high levels of chemical production and commercial/consumer product circulation over an extended number of years.

For the 2019 CHC list update, MDH reviewed CDR submittal data from three submission years: 2006 (data year 2005), 2012 (data year 2011), and 2016 (data years 2012, 2013, 2014, & 2015). To be considered an HPV chemical on the 2019 CHC list a chemical needed to have reported one million pounds or more of national production volume in at least four of six data years. This criterion was applied to all CHC list chemicals, including those newly added in 2019, resulting in 429 HPV chemicals.

The updated 2019 CHC list, tables showing chemicals added or removed, and tables showing the HPV status of the 2019 CHC list chemicals are located on the TFK program website at:

[Chemicals of High Concern](https://www.health.state.mn.us/communities/environment/childenvhealth/tfka/highconcern)

<https://www.health.state.mn.us/communities/environment/childenvhealth/tfka/highconcern>

Toxic Free Kids Program Update

The Toxic Free Kids (TFK) program focuses on the health of children as well as Minnesotans who may be at greater risk from hazardous chemical exposures in consumer products. The TFK program works to identify and communicate the potential for hazardous chemical exposures from consumer product uses that could be harmful to human health, particularly to vulnerable or susceptible populations. This section of the report provides an update on communication and outreach efforts that range from traditional methods, such as web and print materials, social media, and community events, to more engaged methods including university and community collaborations, as well as developing culturally appropriate materials in different formats, such as TV and audio public service announcements.

Health Equity



Proportionate to their weight, children breathe more air, drink more water, and consume more food than adults.

The mission of the Minnesota Department of Health (MDH) is to protect, maintain, and improve the health of all Minnesotans and includes an MDH vision for health equity in Minnesota, where all communities are thriving and all people have what they need to be healthy.

Minnesota ranks, on average, among the healthiest states in the nation. But the averages alone tell an incomplete story. A closer look at the data from the *Advancing Health Equity in Minnesota Report to the Legislature* in 2014 reveals that communities of color, American Indians, lesbian, gay, bisexual, transgender and queer (LGBTQ) communities, the disability community, rural communities and low-income communities

experience the highest inequities in the state (Minnesota Department of Health, 2014).

Hazardous and toxic chemicals in consumer products present a greater risk of harm to certain groups of people more than others. Children are more at risk of exposure to harmful chemicals than adults because of their size, natural behaviors, and where they spend their time. Additionally, some communities are more at risk to hazardous and toxic chemical exposure from the consumer products that are more commonly used in their culture than in other communities. For example, the TFK program focuses on the presence of mercury in skin lightening products as a health equity issue because such products are predominately used among communities of color.

Another example of how the TFK program addresses health equity is through chemical assessment studies in partnership with the Chemicals in Products Interagency Team to purchase, screen, and test products from various manufacturers and retailers. Some of the selected consumer products are more likely to be purchased by low socio-economic status consumers.

Partnerships and Collaborations

Chemicals in Products Interagency Team

In 2016, MDH, the Minnesota Pollution Control Agency (MPCA), and the Minnesota Department of Commerce (Commerce) formally established the Chemicals in Products Interagency Team (CPIT). From article II of the CPIT charter, the goal of CPIT is:

“To reduce the amount of chemical hazards in products, their dispersion into

Minnesota’s environment, and their presence in the bodies of Minnesota citizens, especially our most vulnerable communities” (Chemicals in Products Interagency Team, 2016).

The three agencies work in partnership to:

- Monitor chemical hazards in consumer and business-to-business products, humans, and the environment;
- Educate citizens, vulnerable communities, and businesses about chemical hazards and how to avoid them if they so choose; and to
- Accelerate the development and use of safer alternatives by businesses, state government, and citizens, enhancing Minnesota business growth wherever possible

Through CPIT, MDH and the other member agencies have been able to align their work efforts and leverage their respective authorities and resources on the many issues and projects relating to chemicals in consumer and commercial products. CPIT creates a formal process for sharing information and working across agencies on these related topics and projects with limited resources.

An example of CPIT collaboration is working on consumer product testing studies. CPIT works together to randomly purchase, screen, and test consumer products that should be in compliance with hazardous and toxic chemical and product restriction statutes in Minnesota.

Year	Chemicals	Type of consumer products
2015	Formaldehyde	Personal care products
2017	Formaldehyde	Personal care products
2017	Lead; Cadmium	Children’s jewelry
2018	Lead; Cadmium	Children’s jewelry
2019	Flame-retardants	Study in process

CPIT strives for a positive relationship with manufacturers, distributors, and retailers. If a product is not in compliance, CPIT works with the supply chain to find a solution that addresses both business and public health needs.

SPOTLIGHT STORY: In the 2015 Formaldehyde Study, one of the products randomly purchased by MPCA and tested by the MDH Laboratory was a children’s shampoo. Testing revealed the children’s shampoo contained intentionally added formaldehyde as a preservative ingredient. To resolve this violation of Minnesota Statutes, sections 325F.176-325F.178, the manufacturer, retailer, and Minnesota Department of Commerce Commissioner entered into a Stipulation and Settlement Agreement. The agreement directed the manufacturer and retailer to cease and desist from selling products containing formaldehyde, to repurchase any unsold products, to refund purchased products to consumers, and to create a compliance program

designed to ensure that no children’s product will be sold in Minnesota that violates Minnesota Statutes, sections 325F.176-325F.178.

To check for compliance, the 2017 Formaldehyde Study purchased and tested the same product to determine if the manufacturer and retailer were in compliance. The children’s shampoo from the 2017 study no longer contained formaldehyde.

Interstate Chemicals Clearinghouse (IC2)

The Interstate Chemicals Clearinghouse (IC2) is an association of state, local, and tribal governments that promotes a clean environment, healthy communities, and a vital economy through the development and use of safer chemicals and products. The goals of the IC2 are to:

- Avoid duplication and enhance efficiency and effectiveness of agency initiatives on chemicals through collaboration and coordination
- Build governmental capacity to identify and promote safer chemicals and products
- Ensure that agencies, businesses, and the public have ready access to high quality and authoritative chemicals data, information, and assessment methods

Members from the TFK program and CPIT participate in IC2 activities.

Higher Education Partnerships

In 2017, the TFK program and MPCA collaborated with a professor teaching a Public Health Senior Seminar class at Hamline University. This creative partnership allowed for the TFK program and MPCA to present the public health issue of mercury in skin lightening products and its impacts in the Hmong community to the class of undergraduate seniors. Students were asked by the TFK program and MPCA to learn about the topic and develop outreach materials that would be culturally appropriate for the Hmong community. The TFK program and MPCA provided the foundation of information, technical assistance, and feedback throughout the semester. With guidance from their professor, the students conducted four focus groups with college-aged students who identified as Hmong. The students presented various outreach methods including a possible media brand, #LoveYourSkin, social media content, an outreach plan to engage the community, and audio and audiovisual public service announcements. The students’ work became the foundation of educational materials that MDH continues to refine and use.



Students from Hamline University present their findings and outreach plans for the Hmong community on December 11, 2017 to the Mercury in Skin Lightening Products Workgroup, an interagency and community workgroup, as well as additional guests from the community, state agencies, and universities.

In 2019, members from the TFK program and CPIT worked with the University of Minnesota’s undergraduate Green Chemistry course to present two lectures and class discussions about Minnesota’s laws and government-related efforts to protect human and environmental health from toxic chemicals in consumer products. After the lecture, students were asked to evaluate how beneficial the lectures were to help determine if CPIT will continue to speak to the Green Chemistry course in future years:

- 94% of students stated they were more knowledgeable about laws in Minnesota related to consumer product safety than before the lectures
- 94% of students stated they were more knowledgeable about alternatives assessment than before the lectures
- 24% of students knew the term ‘health equity’ before the lectures; and after the lectures, 84% of students felt they could confidently explain the basic concept of ‘health equity’ to another person
- 35% of students knew the term ‘environmental justice’ before the lectures; and after the lectures, 73% of students felt they could confidently explain the basic concept of ‘environmental justice’ to another person
- 100% of students stated future Green Chemistry students would benefit from learning about how the State of Minnesota addresses chemicals in products

This survey data shows the beneficial impact of the lecture material. CPIT is working to continue these lectures in upcoming years for future chemists and chemical engineers to understand the connection between chemicals in products and human and environmental health.

Education and Outreach

Community Outreach

City-organized Safety Camps are eager for experts to teach chemical safety and the TFK program has led sessions on this topic for the past seven years at Cottage Grove’s Safety Camp. Children learn how to identify safe and unsafe chemical products. In 2019, MDH added a new chemical safety topic: identifying sustainable products for the home. Children participated in making do-it-yourself, low-cost, and toxic-chemical free cleaning products they were able to bring home.



MDH staff teach chemical safety basics through interactive demonstrations.

SPOTLIGHT STORY: In June 2018, TFK program staff participated in the HmongTown Festival to share information about mercury in skin lightening products. More than 15,000 people attended the Festival over two days. A member of the community attending the Festival talked with the TFK program staff and viewed the available educational materials. That community member realized the skincare product she used at home was pictured (right) in the educational handout the TFK program provided her. After a longer discussion between TFK program staff and the community member, she understood that the skin lightening product was harmful to her health as well as the health of her multigenerational family home and that she needed to dispose of the product through a local household hazardous waste disposal site.



MDH staff and community volunteers at the HmongTown Festival engage in conversation and share educational materials about mercury in skin lightening products.

Additionally, in 2019 the TFK program was invited to participate in Early Childhood Family Education classes, specifically for Spanish-speaking families, to discuss toxic and hazardous chemicals found in consumer products. The invitation to discuss how families could protect themselves from toxic and hazardous chemicals came after the (MN FEET Study Community Report (<https://www.health.state.mn.us/communities/environment/biomonitoring/docs/mnfeetcomreporten.pdf>) was released that measured mercury, lead, and cadmium in women and their newborn babies (Minnesota Department of Health, 2019b). Families were eager to learn about harmful and toxic chemicals in consumer products, especially skin lightening products that they or their family members may use. Additional educational materials about harmful and toxic chemicals in children’s jewelry, personal care products, and candy were provided and taken home.

Digital newsletter

In 2017, MDH started the Toxic Free Kids Update digital newsletter. It is shared quarterly with over 2,500 recipients. Content includes CPIT’s efforts, related state and federal work on chemicals in consumer products, and related news stories and journal articles. Find announcements related to children’s environmental health ([Announcements](https://www.health.state.mn.us/communities/environment/childenvhealth/tfka/announcements.html) <https://www.health.state.mn.us/communities/environment/childenvhealth/tfka/announcements.html>) or [sign-up for Toxic Free Kids email updates](https://public.govdelivery.com/accounts/MNMDH/subscriber/new?topic_id=MNMDH_178) (https://public.govdelivery.com/accounts/MNMDH/subscriber/new?topic_id=MNMDH_178).

Social Media

The TFK program has expanded into several social media platforms: Facebook, LinkedIn, and Instagram. On average, 40-50 posts about chemicals in consumer products are shared each year. Each post receives 100-15,000 impressions and up to 120 engaged followers.

Educational materials

Depending on the key message, educational materials are designed for various audiences: general public, targeted community groups, business, or a combination. Educational materials help businesses within the supply chain identify where they can make change. Education materials for consumers guide them in safer choices and reminds them that their consumer buying power influences the market. Some educational materials are developed for both businesses and consumer audiences, such as the results from CPIT’s chemical assessment studies that randomly purchase, screen, and test consumer products that should be in compliance of hazardous and toxic chemical and product restriction statutes in Minnesota.



Understanding the supply chain allows for targeted messaging to the various audiences along the supply chain.

It is important to recognize that Minnesotans come from diverse backgrounds and cultures. An educational material for one community may not be as effective for another community. Various forms of communication and creative outreach are necessary to reach all Minnesotans.

The TFK program’s outreach and education continues to expand its methods of community outreach. For example, upcoming efforts related to toxic chemicals in skin lightening products include:

- integrating traditional symbols and design, from a Hmong tapestry, that resonate with a specific community into educational materials;

- contributing to a Hmong TV segment about beauty, consumer products, and health; and
- developing audio public service announcements to be played on radio stations in English and Hmong.

The TFK program posts its educational material on the MDH website at: [Education](https://www.health.state.mn.us/communities/environment/childenvhealth/tfka/education)
<https://www.health.state.mn.us/communities/environment/childenvhealth/tfka/education>

Summary

The 2019 update of Minnesota’s CHC list reviewed HPV chemical status and resulted in both additions to and removals from the list. The 2019 CHC list will go from having 457 HPV chemicals to 429 HPV chemicals. This list update removed 52 chemicals and added 30 chemicals, changing the overall size of the CHC list from 1,769 chemicals in 2016 to 1,747 in 2019.

The TFK program has made great strides forward in its partnerships, education, and outreach efforts since the previous update report in 2016. Participation in IC2 keeps the TFK program connected to the national landscape of hazardous chemicals in consumer products and membership in the Minnesota state agency level CPIT workgroup allows for state level collaborations. New partnerships with higher education institutions of Hamline University and the University of Minnesota represent innovative paths forward to provide tailored outreach information, creating new educational materials for use in Minnesota communities, and training the next generation of public health practitioners, chemists, and chemical engineers.

The TFK program has presented for seven years at the annual Cottage Grove Safety Camp and is proud to have expanded its community event involvement over the past few years by also participating in the HmongTown Festival and in Early Childhood Family Education Classes. The TFK program will look to continue its involvement in these events as well as looking to expand its involvement into other similar community events.

Since the 2016 program update, the TFK program has worked to make its educational material more accessible and relevant. To assist in this goal, TFK launched a digital newsletter and expanded into social media platforms like Facebook, LinkedIn and Instagram. There has also been an effort to provide educational material for a range of audiences and to do so in new and creative formats. For

example, upcoming efforts related to toxic chemicals in skin lightening products include contributing to a Hmong TV segment about beauty, consumer products, and health.

The TFK program continues to use its resources to serve the citizens of Minnesota by researching and providing clear communication about the potential harms of hazardous chemical use in consumer products. Expanding its role in partnerships and community events has been a major accomplishment of the past few years and is something the TFK program plans to continue growing in the upcoming years. The updated CHC list, TFK program educational and outreach material, and this report are published on the MDH website and can be found at: [Toxic Free Kids: Chemicals of High Concern and Priority Chemicals \(www.health.state.mn.us/communities/environment/childenvhealth/tfka\)](http://www.health.state.mn.us/communities/environment/childenvhealth/tfka).

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Appendix A – Chemicals Added

Table 1: Chemicals added to the 2019 Minnesota Chemicals of High Concern List

No.	CAS RN	Chemical Name	Health Endpoint(s)	Authoritative Source(s)
1	6807-17-6	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	Reproductive	ECHA SVHC ¹
2	103-11-7	2-Ethylhexyl acrylate	Cancer	IARC ² 2B
3	183658-27-7	2-Ethylhexyl-2,3,4,5-tetrabromobenzoate (TBB)	Reproductive, Developmental, Neurological	WA ⁴ CHCC
4	14047-09-7	3,3',4,4'-Tetrachloroazobenzene (TCAB)	Cancer	IARC ² 2A
5	3108-42-7	Ammonium nonadecafluorodecanoate	Reproductive, PBT	ECHA SVHC ¹
6	26040-51-7	Bis (2-ethylhexyl) tetrabromophthalate (TBPH)	Reproductive, Developmental, Neurological	WA ⁴ CHCC
7	38051-10-4	Bis (chloromethyl) propane-1,3-diyl tetrakis-(2-chloroethyl)bis(phosphate) (V6)	Cancer	WA ⁴ CHCC
8	620-92-8	Bisphenol F (BPF)	Reproductive, Developmental, Endocrine System	WA ⁴ CHCC
9	80-09-1	Bisphenol S (BPS)	Reproductive, Developmental	WA ⁴ CHCC
10	21041-95-2	Cadmium hydroxide	Cancer, Mutagenic, Systemic	ECHA SVHC ¹
11	84852-53-9	Decabromodiphenyl ethane (DBDPE)	Developmental	WA ⁴ CHCC
12	3830-45-3	Decanoic acid, nonadecafluoro-, sodium salt	Reproductive, PBT	ECHA SVHC ¹

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No.	CAS RN	Chemical Name	Health Endpoint(s)	Authoritative Source(s)
13	94-58-6	Dihydrosafrole	Cancer	IARC ² 2B
14	12008-41-2	Disodium octaborate	Reproductive	ECHA SVHC ¹
15	68937-41-7	Isopropylated triphenyl phosphate (IPTPP)	Reproductive, Developmental, Neurological	WA ⁴ CHCC
16	108-78-1	Melamine	Cancer	IARC ² 2B
17	1313-27-5	Molybdenum trioxide	Cancer	IARC ² 2B
18	99-97-8	N,N-dimethyl-p-toluidine	Cancer	IARC ² 2B
19	335-76-2	Nonadecafluorodecanoic acid	Reproductive, PBT	ECHA SVHC ¹
20	80-46-6	p-(1,1-dimethylpropyl)phenol	Endocrine System	ECHA SVHC ¹
21	108427-53-8	Perfluorohexanesulfonate (Perfluorohexanesulfonic acid and its salts)(PFHxS)	Liver, Thyroid, PBT	ECHA SVHC ¹ ; MN HRL ³
22	355-46-4	Perfluorohexanesulfonic acid (and its salts)(PFHxS)	Liver, Thyroid, PBT	ECHA SVHC ¹ ; MN HRL ³
23	3871-99-6	Potassium perfluorohexanesulfonate (Perfluorohexanesulfonic acid and its salts)(PFHxS)	Liver, Thyroid, PBT	ECHA SVHC ¹ ; MN HRL ³
24	89-82-7	Pulegone	Cancer	IARC ² 2B
25	61788-32-7	Terphenyl, hydrogenated	vPvB	ECHA SVHC ¹
26	109-99-9	Tetrahydrofuran	Cancer	IARC ² 2B
27	1330-78-5	Tricresyl phosphate (TCP)	Reproductive, Developmental, Neurological	WA ⁴ CHCC

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No.	CAS RN	Chemical Name	Health Endpoint(s)	Authoritative Source(s)
28	15625-89-5	Trimethylolpropane triacrylate, technical grade	Cancer	IARC ² 2B
29	115-86-6	Triphenyl phosphate (TPP)	Reproductive, Developmental, Endocrine System	WA ⁴ CHCC
30	13674-84-5	Tris(1-chloro-2-propyl)phosphate (TCPP)	Reproductive, Developmental	WA ⁴ CHCC

Notes

1 – European Chemicals Agency – Substances of Very High Concern (ECHA SVHC)

2 – International Agency for Research on Cancer (IARC)

3 – Minnesota Department of Health – Health Risk Limits (MN HRL)

4 – Washington Department of Ecology – Chemicals of High Concern to Children (WA CHCC)

Appendix B - Chemicals Removed

Table 2: Chemicals Removed from the 2019 Minnesota Chemicals of High Concern List

No.	CAS RN	Chemical Name	Use Exemption	Authoritative Source Delisted
1	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	CBp	
2	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	CBp	
3	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	CBp	
4	57653-85-7**	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin [polychlorinated dibenzo-p-dioxins]**	CBp	
5	57653-85-7**	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin**	CBp	
6	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran	CBp	
7	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	CBp	
8	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	CBp	
9	75321-20-9	1,3-Dinitropyrene	CBp	
10	64381-97-1	1,4-benzenediamine, N,N,N'-tris(1-methylpropyl)-	FA	
11	139-60-6	1,4-benzenediamine, N,N'-bis(1-ethyl-3-methylpentyl)-	FA	
12	42397-64-8	1,6-Dinitropyrene	CBp	
13	42397-65-9	1,8-Dinitropyrene	CBp	
14	5522-43-0	1-Nitropyrene	CBp	
15	50585-41-6	2,3,7,8-Tetrabromodibenzo-p-dioxin	CBp	
16	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	CBp	

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No.	CAS RN	Chemical Name	Use Exemption	Authoritative Source Delisted
17	105735-71-5	3,7-Dinitrofluoranthene	CBp	
18	22506-53-2	3,9-Dinitrofluoranthene	CBp	
19	57835-92-4	4-Nitropyrene	CBp	
20	302-79-4	All-trans retinoic acid	P	Maine CC
21	25321-09-9	Benzene, bis(1-methylethyl)-	FA	
22	57-57-8	Beta-Propiolactone	P	Maine CC
23	64902-72-3	Chlorsulfuron		CA Prop 65
24	N/A	Diesel engine exhaust	CBp	
25	N/A	Diesel exhaust particulates	CBp	
26	637-92-3	Ethyl tert-butyl ether	FA	CA Prop 65
27	68476-29-9	Fuel gases, crude oil of distillates; Petroleum gas; [A complex combination of light gases produced by distillation of crude oil and by catalytic reforming of naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C1 through C4 and boiling in the range of approximately -217°C to -12°C (-423°F to 10°F).]	F	
28	68476-26-6	Fuel gases, Petroleum gas, [A combination of light gases. It consists predominantly of hydrogen and/or low molecular weight hydrocarbons.]	F	
29	68476-31-3	Fuel oil, no. 4	F	
30	68553-00-4	Fuel oil, no. 6	F	

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No.	CAS RN	Chemical Name	Use Exemption	Authoritative Source Delisted
31	86290-81-5	Gasoline (A complex combination of hydrocarbons consisting primarily of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons having carbon numbers predominantly greater than C3 and boiling in the range of 30°C to 260°C (86°F to 500°F))	F	
32	8006-61-9	Gasoline (A complex combination of hydrocarbons separated from natural gas by processes such as refrigeration or absorption. It consists predominantly of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C4 through C8 and boiling in the range of approximately minus 20°C to 120°C (-4°F to 248°F))	F	
33	N/A	Gasoline engine exhaust (condensates/extracts)	CBp	
34	34465-46-8	Hexachlorodibenzodioxin	CBp	
35	10043-66-0	Iodine-131	P	Maine CC
36	78-00-2	Tetraethyl lead	FA	
37	148-82-3	Melphalan	P	Maine CC
38	590-96-5	Methylazoxymethanol	P	Maine CC
39	832-69-9	1-Methylphenanthrene	CBp	
40	2381-21-7	1-Methylpyrene	CBp	
41	7439-98-7	Molybdenum		WA CHCC
42	505-60-2	Mustard gas	P	Maine CC
43	51-75-2	Nitrogen mustard (Mechlorethamine)	P	Maine CC

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No.	CAS RN	Chemical Name	Use Exemption	Authoritative Source Delisted
44	55-86-7	Nitrogen mustard hydrochloride (Mechlorethamine hydrochloride)	P	Maine CC
45	7790-98-9	Perchlorate and Perchlorate salts (ammonium perchlorate)	F	
46	85-44-9	Phthalic anhydride		WA CHCC
47	68478-17-1	Residues (petroleum), heavy coker gas oil and vacuum gas oil; Heavy Fuel oil; [A complex combination of hydrocarbons produced as the residual fraction from the distillation of heavy coker gas oil and vacuum gas oil. It predominantly consists of hydrocarbons having carbon numbers predominantly greater than C13 and boiling above approximately 2300C (4460F).]	F	
48	994-05-8	Tert-amyl methyl ether	FA	CA Prop 65
49	75-74-1	Tetramethyl lead	FA	
50	509-14-8	Tetranitromethane	F	
51	3555-47-3	Trisiloxane, 1,1,1,5,5,5-hexamethyl-3,3-bis[(trimethylsilyl)oxy]-		CAN CMP
52	107-51-7	Trisiloxane, octamethyl-		CAN CMP & Maine CC

Notes

**=This chemical mistakenly listed twice on the 2016 CHC list. Both entries are now removed
 CA Prop 65 = *California Office of Environmental Health Hazard Assessment Proposition 65 List*
 CAN CMP = Environment Canada and Health Canada Chemicals Management Plan, the Challenge
 CBp = *Combustion By-product*
 F = *Fuel*
 FA = *Fuel Additive*
 Maine CC = *Maine Department of Environmental Protection Chemicals of Concern List*
 P = *Pharmaceutical*
 WA CHCC = *Washington Department of Ecology Chemicals of High Concern to Children*